ARCHÆOLOGICAL SURVEY OF INDIA

ANNUAL REPORT 1928-29

663

ANNUAL REPORT

OF THE

ARCHÆOLOGICAL SURVEY OF INDIA

1928-29

EDITED BY

H. HARGREAVES,

Officiating Director General of Archæology in India.

DELHI: MANAGER OF PUBLICATIONS
1933

Government of India Publications are obtainable from the Government of India, Manager of Publications, Civil Line, Delhi, and from the following Agents :—

EUROPE.

OFFICE OF THE HIGH COMMISSIONER FOR INDIA,
INDIA HOUSE, ALDWYCH, LONDON, W. C. 2.

And at all Booksellers.

INDIA AND CEYLON : Provincial Book Depôts.

MADRAS :—Superintendent, Government Press, Mount Road, Madras.
BOMBAY :—Superintendent, Government Printing and Stationery, Queen's Road, Bombay.
SIND :—Library attached to the Office of the Commissioner in Sind, Karachi.
BENGAL :—Bengal Secretariat Book Depôt, Writers' Buildings, Room No. 1, Ground Floor, Calcutta.
UNITED PROVINCES OF AGRA AND OUDH :—Superintendent of Government Press, United Provinces of Agra and Oudh, Allahabad.
PUNJAB :—Superintendent, Government Printing, Punjab, Lahore.
BURMA :—Superintendent, Government Printing, Burma, Rangoon.
CENTRAL PROVINCES AND BERAR :—Superintendent, Government Printing, Central Provinces, Nagpur.
ASSAM :—Superintendent, Assam Secretariat Press, Shillong.
BIHAR AND ORISSA :—Superintendent, Government Printing, Bihar and Orissa, P. O. Gulzarbagh, Patna.
NORTH-WEST FRONTIER PROVINCE :—Manager, Government Printing and Stationery, Peshawar.

Thacker, Spink & Co., Ltd., Calcutta and Simla.
W. Newman & Co., Ltd., Calcutta.
S. K. Lahiri & Co., Calcutta.
The Indian School Supply Depôt, 309, Bow Bazar Street, Calcutta.
Butterworth & Co. (India), Ltd., Calcutta.
M. C. Sarcar & Sons, 15, College Square, Calcutta.
Standard Literature Company, Limited, Calcutta.
Association Press, Calcutta.
Chukervertty, Chatterjee & Co., Ltd., 13, College Square, Calcutta.
The Book Company, Calcutta.
James Murray & Co., 12, Government Place, Calcutta. (For Meteorological Publications only.)
Ray Chaudhury & Co., 68-5, Ashutosh Mukherji Road, Calcutta.
Scientific Publishing Co., 9, Taltola Lane, Calcutta.
Chatterjee & Co., 3-1, Bacharam Chatterjee Lane, Calcutta.
Standard Law Book Society, 5, Hastings Street, Calcutta.
The Hindu Library, 3, Nandalal Mullick Lane, Calcutta.
Kamala Book Depôt, Ltd., 15, College Square, Calcutta.
The Pioneer Book Supply Co., 20, Shib Narain Das Lane, Calcutta.
P. C. Sarkar & Co., 2, Shama Charan De Street, Calcutta.
* Bengal Flying Club, Dum Dum Cantonment.
Kali Charan & Co., Municipal Market, Calcutta.
N. M. Roy Chowdhury & Co., 11, College Square, Calcutta.
Grantha Mandir, Cuttack.
B. C. Basak, Esq., Proprietor, Albert Library, Dacca.
Higginbothams, Madras.
Rochouse & Sons, Madras.
G. A. Nateson & Co., Publishers, George Town, Madras.
P. Varadachary & Co., Madras.
City Book Co., Madras.
Law Publishing Co., Mylapore, Madras.
The Booklover's Resort, Taikad, Trivandrum, South India.
E. M. Gopalakrishna Kone, Pudumandapam, Madura.
Central Book Depôt, Madura.
Vijapur & Co., Vizagapatam.
Thacker & Co., Ltd., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Ram Chandra Govind & Sons, Kalbadevi Road, Bombay.
N. M. Tripathi & Co., Booksellers, Princess Street, Kalbadevi Road, Bombay.
New and Secondhand Bookshop, Kalbadevi Road, Bombay.
J. M. Pandia & Co., Bombay.
A. H. Wheeler & Co., Allahabad, Calcutta and Bombay.
Bombay Book Depôt, Girgaon, Bombay.
Bennett, Coleman & Co., Ltd., The Times of India Press, Bombay.
The Popular Book Depôt, Bombay.
Lawrence & Mayo, Ltd., Bombay.
The Manager, Oriental Book Supply Agency, 15, Shukrawar, Poona City.
Rama Krishna Bros., Opposite Bishrambag, Poona City.
S. P. Bookstall, 21, Budhwar, Poona.
The International Book Service, Poona 4.
Mangaldas & Sons, Booksellers and Publishers, Bhaga Talao, Surat.
The Standard Book and Stationery Co., 32-33, Arbab Road, Peshawar.
The Students Own Book Depôt, Dharwar.
Shri Shankar Karnataka Pustaka Bhandara, Malamuddi, Dharwar.
The English Book Depôt, Ferozepore.
Frontier Book & Stationery Co., Rawalpindi.
* Hossenbhoy Karimji & Sons, Karachi.
The English Bookstall, Karachi.
Rose & Co., Karachi.
Keale & Co., Karachi.
Ram Chander & Sons, Ambala, Kasauli.
The Standard Bookstall, Quetta and Lahore.
U. P. Malhotra & Co., Quetta.
J. Ray & Sons, 43, K. & L., Edwardes Road, Rawalpindi, Murree and Lahore.
The Standard Book Depôt, Lahore, Nainital, Mussoorie, Dalhousie, Ambala Cantonment and Delhi.
The North India Christian Tract and Book Society, 18, Clive Road, Allahabad.
Ram Narain Lal, Katra, Allahabad.
"The Leader", Allahabad.
The Indian Army Book Depôt, Dayalbagh, Agra.
The English Book Depôt, Taj Road, Agra.
Gaya Prasad & Sons, Agra.
Narayan & Co., Meston Road, Cawnpore.
The Indian Army Book Depôt, Jullundur City—Daryaganj, Delhi.
Manager, Newal Kishore Press, Lucknow.
The Upper India Publishing House, Ltd., Literature Palace, Ammuddaula Park, Lucknow.
Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore and Allahabad.
Rama Krishna & Sons, Booksellers, Anarkali, Lahore.
Students Popular Depôt, Anarkali, Lahore.
The Proprietor, Punjab Sanskrit Book Depôt, Saidmitha Street, Lahore.
The Insurance Publicity Co., Ltd., Lahore.
The Punjab Religious Book Society, Lahore.
The Commercial Book Co., Lahore.
The University Book Agency, Kachari Road, Lahore.
Manager of the Imperial Book Depôt, 63, Chandni Chawk Street, Delhi.
J. M. Jaina & Bros., Delhi.
Fono Book Agency, New Delhi & Simla.
Oxford Book and Stationery Company, Delhi, Lahore, Simla, Meerut and Calcutta.
Mohanlal Dossabhai Shah, Rajkot.
Supdt., American Baptist Mission Press, Rangoon.
Burma Book Club, Ltd., Rangoon.
S. C. Talukdar, Proprietor, Students & Co., Cooch Behar.
The Manager, The Indian Book Shop, Benares City.
Nandkishore & Bros., Chowk, Benares City.
The Srivilliputtur Co-operative Trading Union, Ltd., Srivilliputtur (S. I. R.).
Raghunath Prasad & Sons, Patna City.
The Students' Emporium, Patna.
K. L. Mathur & Bros., Guzri, Patna City.
Kamala Book Stores, Bankipore, Patna.
G. Banerjea & Bros., Ranchi.
M. C. Kothari, Raipura Road, Baroda.
B. Parikh & Co., Baroda.
The Hyderabad Book Depôt, Chaderghat, Hyderabad (Deccan).
S. Krishnaswamy & Co., Teppakulam P. O., Trichinopoly Fort.
Standard Book and Map Agency, Book Sellers and Publishers, Ballygunge.
Karnataka Publishing House, Bangalore City.
Bheema Sons, Fort, Bangalore City.
Superintendent, Bangalore Press, Lake View, Mysore Road, Bangalore City.

AGENT IN PALESTINE :—Steimatzky, Jerusalem.
* Agents for Publications on aviation only.

663

TABLE OF CONTENTS.

	Page.
Introduction	1
SECTION I.—Conservation—	
Northern Circle (Muhammadan and British Monuments)—	
United Provinces—	
Agra	8
Itimadpur	9
Sikandra	9
Fathpur Sikri	9
Kagaraul	10
Aligarh	10
Najibabad	10
Lucknow	10
Jaunpur	11
Chunar	11
Gardens	11
Allahabad	12
Delhi Province—	
Delhi	12
Gardens	13
Northern Circle (Hindu and Buddhist Monuments)—	
Punjab—	
Kulu	14
Amb	15
United Provinces—	
Almora: Jagesvar and Katarmal	15
Dwarahat	17
Lakhamandal	17
Kasia	17
Sarnath	18
Belkhara	18
Bijaigarh Fort	18
Frontier Circle—	
Punjab (Muhammadan and British Monuments)—	
Lahore	18
Nawankot	23
Shahdara	23
Attock	24
Multan	25
Gardens	26

PAGE.

SECTION I.—CONSERVATION—*contd.*

FRONTIER CIRCLE—*contd.*

North-West Frontier Province—

Takht-i-Bahi 26
Shahdaur 27

WESTERN CIRCLE—

Bombay Presidency including Sind—

Sarnal 27
Bassein 27
Jogesvari 28
Sanjan Peak 28
Elephanta, Karla and Poona 28
Junnar 28
Faria Bagh and Pedgaon 29
Ahmedabad District 29
Panch Mahals District 30
Bijapur District 30
Hangal and Vijayadurga 30
Raygad, Deothan, Ankai and Ghodesvara 30
Sind 30

CENTRAL CIRCLE—

Bihar and Orissa—

Nalanda 31
Rajgir 35
Rohtasgarh 35
Sassaram 35
Cuttack 35

Central Provinces and Berar—

Burhanpur 35
Akola 36
Narnalla 37
Lonar 37
Tilota Khairi 37
Chanda District 37
Saugor District 37
Bilhari 38

EASTERN CIRCLE—

Bengal—

Paharpur 38
Vishnupur 39
Gaurangpur 39
Rampal 40
Pandua 41
Gaur 41
Burdwan 41

PAGE.

SECTION I.—CONSERVATION—*concld.*

EASTERN CIRCLE—*concld.*

Assam—

Sibsagar 42
Sankarpasha 42-44
Bamuni Hill 44

SOUTHERN CIRCLE—

Madras Presidency—

Jaugada 44
Anakapalli 44
Ramatirtham 44
Masulipatam 44
Ghantasala 44
Gudivada 44
Jaggayyapeta 44
Gummadidurru 44
Bezwada 44
Mogalrajapuram 44
Vinukonda 44
Ipuru 45
Amaravati 45
Chingleput District 45
Gingee Fort 45
Negapatam 45
Tranquebar 45
Tanjore 45
Hampi 45

BURMA CIRCLE—

Pwasaw 46
Thiyipyitsaya 46
Minnanthu 47
Miscellaneous Annual Repairs 47

RAJPUTANA AND CENTRAL INDIA—

Ajmer 47

Indian States—

Jhalawar State 48
Jaipur State 48
Udaipur State 49
Chhatarpur State 49
Bhopal State 49
Dhar State 49
Datia State 50

SECTION II.—EXPLORATION AND RESEARCH—

Excavations at Taxila by Sir John Marshall, Kt., C.I.E.—

Sirkap 51

Excavations at Mohenjodaro by Mr. E. J. H. Mackay, M.A., F.S.A. . . . 67

	Page.
SECTION II.—Exploration and Research—*contd.*	
Excavations at Harappa by Mr. Madho Sarup Vats, M.A.	76
Excavations at Dallin by Mr. Madho Sarup Vats, M.A.	83
Excavations at Nalanda by Mr. J. A. Page, A.R.I. B.A.	85
Excavations at Mahasthan by Mr. K. N. Dikshit, M.A.	88
Excavations at Paharpur by Mr. K. N. Dikshit, M.A.	97
Excavations in the Murshidabad District by Mr. K. N. Dikshit, M.A.	98
Excavations at Nagarjunikonda by Mr. A. H. Longhurst	100
Excavations at Hmawza by Mon. Charles Duroiselle, M.A.	105
Explorations at Pagan and Mandalay by Mon. Charles Duroiselle, M.A.	109
SECTION III.—Epigraphy—	
Sanskrit Epigraphy—	
Inscriptions discovered during the year	114
Collection of Kanarese inscriptions from the Bombay Karnatak	116
Publications—The Epigraphia Indica	119
—The South Indian Inscriptions	121
Epigraphical work done in different circles	122
Burma Circle	123
Eastern Circle	125
Central Circle	125
Western Circle	125
Southern Circle	125
Moslem Epigraphy	127
SECTION IV.—Museums—	
Indian Museum, Calcutta	130
Taxila Museum	140
Peshawar Museum	141
Taj Museum	143
Delhi Fort Museum	143
Sarnath Museum	144
Nalanda Museum	144
Lahore Fort Museum	145
Museums in Burma	146
Central Asian Antiquities Museum, New Delhi	146
SECTION V.—Officers on special duty—	
Sir John Marshall	148
Sir Aurel Stein	148
Mr. F. H. Andrews	150
SECTION VI.—Archæological Chemist—	152
SECTION VII.—Treasure Trove—	
United Provinces	158
Punjab	158
Western Circle	158
Central Circle	159
Eastern Circle	159
Southern Circle	160
Burma Circle	160

PAGE.

SECTION VIII.—MISCELLANEOUS NOTES—

The Yerragudi Rock Edicts of Asoka by Rai Bahadur Daya Ram Sahni, M.A. . . . 161

Bas-reliefs in the Hill Fort at Badami by Mr. G. C. Chandra 167

Notes on the Coins of Azes by Mr. N. G. Majumdar, M.A. 169

SECTION IX.—DEPARTMENTAL ROUTINE NOTES—

Ancient Monuments Preservation Act and Listing of Monuments—

United Provinces 175

Punjab 175

Bombay Presidency including Sind 175

Bihar and Orissa 175

Central Provinces 175

Bengal 176

Madras 176

PUBLICATIONS 176

PHOTOGRAPHS—

Director General 176

Northern Circle, Agra 177

Northern Circle, Lahore 177

Frontier Circle 177

Western Circle 177

Central Circle 177

Eastern Circle 177

Southern Circle 178

Burma Circle 178

Indian Museum, Archæological Section 178

DRAWINGS—

Director General 178

Northern Circle, Agra 178

Northern Circle, Lahore 178

Frontier Circle 178

Western Circle 178

Central Circle 178

Eastern Circle 178

Southern Circle 178

Burma Circle 178

PERSONNEL 179

SCHOLARSHIPS 180

APPENDICES—

Appendix I—

List of exhibits other than coins acquired for the Indian Museum, Archæological Section 181 183

List of coins acquired for the Indian Museum, Archæological Section 193

List of exhibits other than coins acquired for the Delhi Fort Museum . .

List of coins acquired for the Delhi Fort Museum 194

Appendix II—

Additions to Departmental Libraries 195

LIST OF PLATES.

PLATE I.—CONSERVATION, FATHPUR SIKRI AND DELHI.

(*a*) Fathpur Sikri. Baoli. General view, from south-west, before conservation.

(*b*) Fathpur Sikri. Baoli. General view, from south-west, after conservation.

(*c*) Begampur, Delhi. Bijai Mandal. View of northern dalans, from north-east, before conservation.

(*d*) Begampur, Delhi. Bijai Mandal. View of northern dalans, from north-east, after conservation.

" II.—CONSERVATION, DELHI.

(*a*) Delhi. Nili Masjid at Kharera, from south-east, before conservation.

(*b*) Delhi. Nili Masjid at Kharera, from south-east, after conservation.

(*c*) Delhi. Kashmiri Gate, showing modern additions, from north-west, before dismantling.

(*d*) Delhi. Kashmiri Gate, from north-west, after dismantling of modern additions.

" III.—CONSERVATION, JAGESVAR, BIJAIGARH FORT AND KASIA.

(*a*) Jagesvar. Compound wall and temples from north-west, after conservation.

(*b*) Bijaigarh Fort. Mediæval inscription on the left of the third gateway.

(*c*) Kasia. Monasteries L and M from south-east, after conservation.

" IV.—CONSERVATION, JAGESVAR AND MULTAN.

(*a*) Jagesvar. Navadevi shrine from south-west, after conservation.

(*b*) Multan. Sawi Masjid, before conservation.

" V.—CONSERVATION, LAHORE FORT AND SHAHDARA.

(*a*) Lahore Fort. Jahangir's quadrangle, the central tank with new marble fountains.

(*b*) Lahore Fort. Jahangir's quadrangle, new fountains playing.

(*c*) Shahdara. Jahangir's tomb, southern section of western causeway, before conservation.

(*d*) Shahdara. Jahangir's tomb, southern section of western causeway, after conservation.

" VI.—CONSERVATION, TAKHT-I-BAHI.

(*a*) Takht-i-Bahi. Court X, showing chapels, before conservation.

(*b*) Takht-i-Bahi. Court X, showing chapels, after conservation.

(*c*) Takht-i-Bahi. Courts V and VI, before conservation.

(*d*) Takht-i-Bahi. Courts V and VI, after conservation.

" VII.—CONSERVATION, BIJAPUR, AIHOLE AND RAYAGAD FORT.

(*a*) Bijapur. Sikander Adil Shah's tomb, showing treatment of the enclosed area.

(*b*) Bijapur. Athar Mahal, showing tanks filled with water.

(*c*) Aihole, District Bijapur. Temple No. 6 in the " Kontgudi " group, showing details of roof construction.

(*d*) Rayagad Fort, District Kolaba. Maharaja Sivaji's Samadhi, after conservation and erection of a new Chhattri.

PLATE VIII.—CONSERVATION, BADAMI AND BASSEIN FORT.

(a) and (b) Badami, District Bijapur. Bas-reliefs utilized in the plinth of modern guard room on the top of the north hill.

(c) Bassein Fort, District Thana. Sculpture discovered in the Jesuits' Monastery.

" IX.—CONSERVATION, BADAMI AND TILOTA KHAIRI.

(a) Badami, District Bijapur. Surali or Suvali temple. Model of a psuedo-queen-post truss in relief on wall.

(b) Tilota Khairi, Cromlech, from west.

" X.—CONSERVATION, NALANDA.

(a) Nalanda. Stupa site No. 3. General view from north-east, during conservation.

(b) Nalanda. Stupa site No. 3. General view from north-east, after conservation.

" XI.—CONSERVATION, RAJGIR AND BURHANPUR.

(a) Rajgir. "New Fort," South gate, before clearance and repair.

(b) Rajgir. "New Fort," South gate, after clearance and repair.

(c) Burhanpur. Shah Nawaz Khan's tomb, undermined wall of Chhattri to north-west; from river bed.

(d) Burhanpur. Shah Nawaz Khan's tomb, new revetment wall below the north-west Chhattri; from river bed.

" XII.—CONSERVATION, PAHARPUR AND RAMPAL.

(a) Paharpur, Rajshahi. Eastern ante-chamber and mandapa, before conservation.

(b) Paharpur, Rajshahi. Eastern ante-chamber and mandapa, after conservation.

(c) Rampal, Dacca. Front view of Baba Adam's mosque, before conservation.

(d) Rampal, Dacca. Front view of Baba Adam's mosque, after conservation.

" XIII.—CONSERVATION, SANKARPASHA AND SIBSAGAR.

(a) Sankarpasha, Sylhet. General view of mosque, from south-west.

(b) Sibsagar, Assam. Plaster ornamentation of Karanghar Palace.

(c) Sankarpasha, Sylhet. Details of moulded brickwork in front wall of mosque.

" XIV.—CONSERVATION, MAHABALIPURAM.

(a) Seven Pagodas. The Five Rathas, from south, before repairs.

(b) Seven Pagodas. The Five Rathas, from west, before repairs.

(c) Seven Pagodas. The Five Rathas, from west, after repairs.

(d) Seven Pagodas. The Five Rathas, from south, after repairs.

" XV.—CONSERVATION, PAGAN.

(a) Pwasaw, Pagan. Dhammayazika Pagoda, after repairs.

(b) Minnanthu, Pagan. Thambhula temple, after repairs.

(c) Minnanthu, Pagan. Nandamannya temple, after repairs.

" XVI.—EXCAVATIONS, TAXILA.

Sirkap. Block 2′. Plan and Sections of six strata.

PLATE XVII.—EXCAVATIONS, TAXILA.
(*a*) Sirkap. Blocks H′, G′ and F′. General view, looking north.
(*b*) Sirkap. Blocks D′ and E′. General view, from south-west.

" XVIII.—EXCAVATIONS, TAXILA.
(*a*) Sirkap. Block 2′. View of deep digging from north.
(*b*) Sirkap. Block 2′. View of deep digging inside city wall, looking east.

" XIX.—EXCAVATIONS, TAXILA.
(1-5) Miscellaneous antiquities from Sirkap.

" XX.—EXCAVATIONS, TAXILA.
(1-12) Miscellaneous antiquities from Sirkap.

" XXI.—EXCAVATIONS, TAXILA.
(1-15) Miscellaneous antiquities from Sirkap.

" XXII.—EXCAVATIONS, TAXILA.
(1-8) Miscellaneous antiquities from Sirkap.

" XXIII.—EXCAVATIONS, MOHENJODARO.
Plan of Dk Area, G. Section showing buildings of the late Period.

" XXIV.—EXCAVATIONS, MOHENJODARO.
(*a*) A large building of Intermediate Period III showing on the right an original doorway (A) and to left two doorways (B) of later period.
(*b*) General view of excavations (Dk. Area, G. Section) showing water chute, well and mud-brick filling of later buildings.

" XXV.—EXCAVATIONS, MOHENJODARO.
The lining of a well showing the masonry of three separate periods. Beyond are seen buildings of the potters' quarter high up on debris of earlier occupations.

" XXVI.—EXCAVATIONS, MOHENJODARO.
In the foreground are lanes and buildings of the Intermediate Period III surmounted in places by late masonry. Beyond are seen well preserved buildings of the Late Period.

" XXVII.—EXCAVATIONS, MOHENJODARO.
(*a*) Lane of the Intermediate Period with strongly battered walls of houses.
(*b*) Lane of the Intermediate Period with well-constructed drain.
(*c*) A well-paved room of the Intermediate Period III, with the remains of a building of the Late Period in the rear.
(*d*) A double stairway of the Intermediate Period with a brick drain of late date in foreground.

" XXVIII.—EXCAVATIONS, MOHENJODARO.
(*a-g*) Seals and other objects.

" XXIX.—EXCAVATIONS, MOHENJODARO.
(*a-b*) Copper antiquities. (*c-d*) Details of buildings.

" XXX.—EXCAVATIONS, HARAPPA.
(*a*) Harappa. Mound F, trench IV. Northern section showing three circular structures, from south-east.
(*b*) Harappa. Mound F, trench V. General view after excavation, from west.
(*c*) Harappa. Site G, trench II. Pottery (G 130) *in situ*, from south-east.
(*d*) Harappa. Mound F. Jewellery from trench IV.

PLATE XXXI.—EXCAVATIONS, HARAPPA.

(a) Harappa. Torso of a nude male figure in red sandstone. Front view.
(b) Harappa. Torso of a nude male figure in red sandstone. Side view.
(c) Harappa. Torso of a nude male figure in red sandstone. Back view.
(d) Harappa. Torso of a nude male figure in red sandstone. Side view.

" XXXII.—EXCAVATIONS, HARAPPA AND DALLIN.

(a) Harappa. Mound F, trench V. Well, and oval jars *in situ* from north-west.
(b) Harappa. Seals and sealings.
(c) Dallin. Circular structure B in Pakpatan canal.
(d) Dallin. Circular structure A in Pakpatan canal.

" XXXIII.—EXCAVATIONS, HARAPPA AND DALLIN.

(a) Copper objects.
(b) Snake head and cone.
(c) Copper dagger.
(d) Censer and dishes.
(e) Earthenware vases.
(f) Ornamental objects of faience and steatite.
(g) Painted platters and dish on stand.
(h) Ribbed faience objects.
(i) Terracotta human heads from the Pakpatan canal.

" XXXIV.—EXCAVATIONS, NALANDA.

Plan of monastery No. 7. Topmost level.

" XXXV.—EXCAVATIONS, NALANDA.

(a) Nalanda. Monastery 7. Topmost stratum, east verandah and cells as excavated and before repair.
(b) Nalanda. Monastery 7. Topmost stratum, east side cells after repair.
(c) Nalanda. Monastery 6. North side verandah parapet and earlier structures as excavated and before repair.
(d) Nalanda. Monastery 6. North side verandah parapet and earlier structures after repair.

" XXXVI.—EXCAVATIONS, MAHASTHAN.

(a) Mahasthan, District Bogra. Bairagi Bhita. View of brick-on-edge platform.
(b) Mahasthan, District Bogra. Bairagi Bhita. View of north-west corner of early Pala temple.
(c) Mahasthan, District Bogra. Munir Ghon. City wall before excavation.
(d) Mahasthan, District Bogra. Munir Ghon. City wall with outer bastion, after excavation.

" XXXVII.—EXCAVATIONS, MAHASTHAN.

(a) Mahasthan, District Bogra. Bairagi Bhita. General view showing different levels and earthen soak-jar connected with underground stone drain.
(b) Mahasthan, District Bogra. Bairagi Bhita. Square platform in north-west corner.
(c) Mahasthan, District Bogra. Temple with stone steps in southern trench.
(d) Mahasthan, District Bogra. Detail of a pillar with Kirttimukhas in southern trench.

PLATE XXXVIII.—EXCAVATIONS, MAHASTHAN.
(a) Mahasthan, District Bogra. Square platform in southern trench.
(b) Mahasthan, District Bogra. Ring wells in southern trench.
(c) Mahasthan, District Bogra. General view of Gobinda Bhita, from south-west, before excavation.
(d) Mahasthan, District Bogra. General view of Gobinda Bhita, from south-west, after excavation.

" XXXIX.—EXCAVATIONS, MAHASTHAN.
(a) Mahasthan, District Bogra. General view of Gobinda Bhita, from north-east.
(b) Mahasthan, District Bogra. Closer view of Gobinda Bhita, from north showing river bend.
(c) Mahasthan, District Bogra. Gobinda Bhita. Wall of the earlier temple showing offsets in the foundation.
(d) Mahasthan, District Bogra. Gobinda Bhita. West basement wall of eastern temple.

" XL.—EXCAVATIONS, MAHASTHAN.
(a) Mahasthan, District Bogra. Gobinda Bhita. Outer enclosure wall from north-west.
(b) Mahasthan, District Bogra. Bairagi Bhita. View of stone drain in early temple.
(c) Mahasthan, District Bogra. Gobinda Bhita. General view of interior of eastern temple.
(d) Mahasthan, District Bogra. Bairagi Bhita. Details of carving on a stone pillar.

" XLI.—EXCAVATIONS, MAHASTHAN.
(a) Pottery.
(b) Terracotta toys.
(c) Gold ornaments found in a tiny jar.
(d) Terracotta toys.
(e) Carved brick.
(f) Fragmentary carved bricks.

" XLII.—EXCAVATIONS, MAHASTHAN.
(a) Terracotta head of tiger.
(b) Potsherd with hunting scene.
(c) Beads.
(d) Terracotta plaque.
(e) Pedestal of lost Chandi image.

" XLIII.—EXCAVATIONS, PAHARPUR AND RANGAMATI.
(a) Paharpur, District Rajshahi. General view of rooms on east.
(b) Paharpur, District Rajshahi. Pedestal for image in room No. 2.
(c) Paharpur, District Rajshahi. Wall of miniature temple on west, showing gargoyle and plaques.
(d) Rangamati, District Murshidabad. General view of excavations from north-east.

PLATE XLIV.—ANTIQUITIES FROM CHUNSAR AND RANGAMATI.

(a) Stone beads from mound at Chunsar, Murshidabad.
(b) Terracotta heads from Rangamati.
(c-e) Terracotta objects from Rangamati.
(f) Stucco fragment with a figure of a Dhyani Buddha.

" XLV.—EXCAVATIONS, NAGARJUNIKONDA.

(a) Plan of the Great Stupa. (Findspot of relics marked by a cross.)
(b) Outer wall of the Great Stupa. (Findspot of relics marked by a cross.)

" XLVI.—EXCAVATIONS, NAGARJUNIKONDA.

(a) Carved Ayaka-Pillar.
(b) The Buddha Relics when first discovered.
(c) The Buddha Relics after cleaning and showing (1) the Bone Relic and (2) the gold box.

" XLVII.—EXCAVATIONS, NAGARJUNIKONDA.

(a) Representation of a Stupa.
(b) Representation of a Stupa.

" XLVIII.—EXCAVATIONS, NAGARJUNIKONDA.

(a) The Nativity and the Seven Steps.
(b) Interpretation of the Dream.

" XLIX.—EXCAVATIONS, NAGARJUNIKONDA.

(a) To right : The casting of the Horoscope ; to left : Siddhartha's visit to the temple.
(b) The Temptation.

" L.—EXCAVATIONS, NAGARJUNIKONDA.

(a) The Mahaparinirvana.
(b) The First Sermon.
(c) The Temptation.
(d) The Great Renunciation.

" LI.—ANTIQUITIES FROM HMAWZA AND PAGAN.

(a) Hmawza. Inscribed gold plate.
(b) Hmawza. Inscribed Buddha.
(c) Pagan. A seated figure with protuberant belly.
(d) Pagan. Terracotta votive tablet.
(e & f). Hmawza. Seated Buddhas.
(g) Hmawza. Buddha and a relic casket.

" LII.—ANTIQUITIES FROM HMAWZA AND PAGAN.

(a) Hmawza. Avalokitesvara.
(b) Hmawza. Terracotta plaque.
(c) Back view of (a).
(d) Pagan. Buddha Vessabhu.
(e) Mandalay. Relief with scenes from the life of the Buddha.

" LIII.—INDIAN MUSEUM.

(a) Gupta gallery of the Archæological Section of the Indian Museum, after rearrangement.
(b) Brahma (from Benares).
(c) *Ārati* of Bhairava (from Benares).

PLATE LIV.—INDIAN MUSEUM.
(a) Durga killing the Asura Mahisha (from Manbhum).
(b) Image of Revanta, god of hunting, from Chancharipasa, Bakarganj.
(c) Pigmy tools from Dhalbhum.

„ LV.—INDIAN MUSEUM.
Selected gems from the Pearse collection.

„ LVI.—INDIAN MUSEUM.
Selected gems and coins from the Pearse collection.

„ LVII.—NALANDA MUSEUM, BRONZE IMAGES.
(a) Preaching Buddha.
(b) Standing Vishnu.
(c) Seated Bodhisattva.

„ LVIII.—DELHI FORT AND PESHAWAR MUSEUMS.
(a) Peshawar Museum. Inscribed relief depicting Indra's visit to the Buddha.
(b) Delhi Fort Museum. Bronze celestial sphere.
(c) Kharoshthi inscription of the year 89 on the base of (a).

„ LIX.—CENTRAL ASIAN ANTIQUITIES MUSEUM, NEW DELHI.
(a) Interior view from Room III looking into Rooms II-I.
(b) Interior view from Room I looking into Rooms II-III.

„ LX.—EPIGRAPHY.
Yerragudi. General view of inscribed rocks (A-F).

„ LXI.—EPIGRAPHY.
Yerragudi. Asoka Edicts IV, VIII and X on Rock B.

„ LXII.—EPIGRAPHY.
Yerragudi. Minor Rock Edict of Asoka on Rock F.

„ LXIII.—
(a-b) Bronze figures of the Buddha, before chemical treatment.
(c-d) The same, after chemical treatment.

„ LXIV.—Development of the Kharoshthi alphabet on coins.

TITLES APPEARING UNDER PLATES.

Errata.

PLATE XXIII.—References First and Second Period in Plan should read :—
Late and Intermediate Period.

„ XXIV (a).—Intermediate Period I should read :—
Intermediate Period III.

„ XXVI.—Intermediate Period I should read :—
Intermediate Period III.

„ XXVII (c).—Intermediate Period I should read :—
Intermediate Period III.

„ XLVIII (b).—'Casting of the horoscope' should read :—
Interpretation of the Dream.

ANNUAL REPORT

OF THE

ARCHÆOLOGICAL SURVEY OF INDIA

FOR THE YEAR

1928-29.

INTRODUCTION.

In all the varied activities of the Archæological Survey, conservation, exploration, research and epigraphy, the year 1928-29 has been one of steady progress.

A recently compiled consolidated list of monuments protected under the Ancient Monuments Preservation Act reveals that no less than three thousand one hundred and seventy are maintained by the Central Government alone. They include ancient sites, baths, bridges, caves, forts, gardens, gateways, inscribed rocks, images, serais, kos minars, mosques, monasteries, palaces, pillars, pagodas, tombs, tanks, towers, temples, wells and the walls of ruined and deserted forts and cities as well as some four hundred miscellaneous objects and buildings. As a result of the measures taken by the Archæological Department over a period of twenty-eight years the number of monuments calling for special repairs of a striking nature diminishes and conservation tends, therefore, to become more routine and limited to annual repairs and maintenance, both very necessary and calling for skilled, intelligent and constant supervision, but works in no way spectacular and but rarely lending themselves to a detailed description likely to make a strong general appeal. Nevertheless the paramount importance of the standing monuments cannot be contested and hence in this report priority is given to that section of the activities of the Department on which is expended the greater part of the archæological funds and of the energies of its officers.

The departmental execution of the conservation of central protected monuments, already adopted in the United Provinces and discussed in the introductory paragraphs of the Reports for the years 1923-24 and 1925-26, has been extended this year to the Punjab, where all the archæological monuments, Muhammadan and British as well as Hindu and Buddhist, have been placed under the direct control of the Superintendent, Frontier Circle, who is now responsible for their upkeep, repair and maintenance. The pumping plant at certain monuments has, however, been allowed to remain under the local Public Works Department, their working requiring special mechanical knowledge. The extra responsibilities thus devolved upon the Superintendent, Frontier Circle, necessitated a corresponding increase in his establishment, and additional staff has been sanctioned to assist him in the discharge of his additional duties. To enable him to exercise closer supervision over conservation works, his headquarters have, for the time being, been transferred from Peshawar to Lahore, a subsidiary office being retained at Peshawar, where his Personal Assistant has been stationed for the maintenance of the monuments in the North West Frontier Province. Although this was the first year that conservation in the Punjab was carried out departmentally, no special difficulties were experienced though the conservation programme was exceptionally heavy.

Excavations have been carried out at no less than eleven sites. At Taxila with the completion of the "Palace" excavation and the clearance of several blocks of houses on the east side of the Main Street operations in the Scytho-Parthian city of Sirkap have, for the time being, been brought to a conclusion and work directed to the opening up of the earlier strata of remains below. As the spade goes deeper, the area that can be excavated for a given sum necessarily grows less and less and it is not to be expected, therefore, that the excavation of the lower cities will yield as rich a harvest of antiquities as the Scytho-Parthian city has done. Nevertheless, to judge by what has already been achieved, there is every prospect that the excavators will succeed in pushing back the story of this civilisation for several more centuries.

Continued excavation of the prehistoric sites of Harappa and Mohenjodaro yielded for the most part structural remains and antiquities resembling those found in former years. The most significant find reported from Harappa is that of seven burial jars and eight skeletons, seeming indications of a cemetery of chalcolithic times. The anthropological importance of the remains likely to be recovered from its exploration is such that Mr. Vats' further investigations in this particular direction will be awaited with interest.

At Mohenjodaro Mr. Mackay has cleared a portion of what he considers to be the "Artizan's Quarter" of the Late Period, but the principal operation was the excavation of a large area to a depth of some twenty-three feet below the original surface of the mound and to the fourth level of occupation. In this fourth stratum it is now possible to walk through the streets and to enter many of the buildings of the period as easily as did its original inhabitants. A steady deterioration of the masonry and the decreasing size of the houses appears to be

an index of the decay of this civilization from the Early to the Late Period. A similar deterioration is noted at Harappa.

The discovery of evidence of flooding between the Early and Intermediate Periods at Mohenjodaro indicates the former existence of a danger to which Mohenjodaro even to-day is still exposed. Mr. Mackay is of opinion that a recently discovered cylinder seal shows that the upper strata of Mohenjodaro can be safely dated to 3000-2750 B.C. as its form is very like pre-Sargonic seals found in Mesopotamia. As, however, the seal in question is acknowledged to be Indian in origin it appears somewhat temerarious to base so wide a conclusion on a single object.

Seals recovered at Mohenjodaro showing a goddess in a *pipal* tree and another horned figure in *yoga* attitude (which has been identified with Śiva) and a seal from Harappa depicting a deity standing under a *pipal* tree and another seal displaying a rosette of seven *pipal* leaves are not without significance and tend to give a stronger Indian than western orientation to this Indus Valley culture. It is not therefore improbable that at these sites may later be recovered definite prototypes of Indian deities and traces of art motifs and cults which persist to the present day.

Explorations at Nālandā were largely confined to the Monastery Sites. To the vicissitudes experienced by these monasteries the clear traces of frequent destruction bear ample witness. The antiquities recovered were principally Buddhist images and articles of domestic use. Conservation of the excavated remains has proceeded *pari passu* with their exploration, and an endeavour has been made by Mr. Page to exhibit a definite portion of each of the several structures which have been erected on the ruins of others throughout the long occupation of the site.

Mon. Duroiselle's researches in Burma were confined to two sites, Hmawza and Pagan. At the former site thirty-two mounds were explored revealing the remains of stupa and burial mounds and yielding bronze and small gold images, and votive tablets of the 5th and 10th centuries.

In Bengal Mr. Dikshit carried out researches at Mahasthan, Paharpur and Rangamati. Mahasthan in the Bogra District and the largest known ancient site in Bengal is, in the *Karatoyā-Mahātmya*, identified with *Pauṇḍranagara*. From the excavations it appears that the city site was in occupation from early Gupta times, and that after the Gupta period the city decayed but was re-occupied in the Pala period, the excavated city wall and bastion being assignable to that occupation. The identification of the site with *Pauṇḍranagara* still awaits confirmation, but a more detailed examination of the Gupta levels may afford this. Further exploration at Paharpur was confined almost entirely to the examination of fifteen cells of the monastery while the trial excavation at Rangamati on the west bank of the Bhāgīrathī, six miles below Berhampore, despite the disturbance of the site by treasure seekers and brick robbers, disclosed three periods of occupation, the earliest yielding Buddhist remains of the 6-7th centuries.

Mr. Longhurst's continued excavations at Nagarjunikonda were particularly successful, yielding within the remains of a large brick stupa (which is apparently the *Mahāchaitya* referred to in the inscriptions already found at the site), a reliquary containing a bone relic, which is in all probability the corporeal relic (*dhātu*) of the Buddha which sanctified the spot. The *āyaka* pillars of which their discoverer gives a valuable description are noticeable features. Numerous bas-reliefs, *toraṇa* transoms, and other reliquaries still retaining their original contents, were recovered and these most successful operations make a valuable contribution to our knowledge of Buddhism in South India. It is hoped that Mr. Longhurst will be able to publish in detail the many interesting bas-reliefs of the Amarāvati School revealed in his researches.

It is only a portion of the antiquities recovered on ancient sites which can pass without treatment from the excavations to the archæological museums, and during the year under review 1732 objects received treatment by Mr. Sana Ullah, the Archæological Chemist, and his assistant, Dr. Hamid. The detailed report of the valuable work of these officers is given below but in addition to the treatment of antiquities their researches have extended to analyses of metals and mortars as well as to the technique of pottery, faience, steatite objects and their glazes.

Mr. Sana Ullah's opinion, based on his analyses of tools from Mohenjo-daro, that copper is the earliest known metal used at that site for general purposes and that bronze was introduced probably earlier than 3000 B.C., is of importance as tending to confirm from another source Mr. Mackay's date based on the seal referred to above.

For the departmental museums the year has been one of considerable importance. In April 1928 the new museum at Taxila was opened to the public by the Hon'ble Sir Mohammad Habibullah, K.C.S.I., K.C.I.E., Kt., Member for Education, Health and Lands. A description of the building itself was given in the previous report but the justification for erecting local museums on ancient sites excavated by the Archæological Department may here be indicated. It has been the aim of the Government of India to keep the small and movable antiquities recovered from the ancient sites in close association with the remains to which they belong, so that they may be studied amid their natural surroundings and not lose focus and meaning by being transported to some distant place. The objects preserved in these local museums are all-important to the student, if he is to visualize aright the conditions of life in Ancient India and to infuse life and colour into his picture. But it is obvious that local museums, such as the one at Taxila, are too costly to be maintained on every site that is excavated. They are justified only if the antiquities housed in them are sufficiently numerous and valuable, and if the site itself is reasonably accessible to the public. At Taxila, both of these conditions are fulfilled. On the one hand the new museum is only a few hundred yards distant from a railway junction on the North Western Railway, and it can easily be visited by rail or motor car from Rawalpindi. On the other hand the collection of objects in it is exceptionally varied and rich. It covers a period of a thousand years and more—from the

sixth or seventh century B.C. to about the 5th century A.D.—and it illustrates the peculiarly cosmopolitan culture that prevailed during most of that period in the North-West of India, where Greek invaders succeeded Persian, and were themselves followed by Scythians, Parthians, Kushāns and Huns; where elements from the arts and crafts of all these heterogeneous nations became inextricably blended with the Indian; and where the Brahman and the Buddhist flourished side by side with the Jain and the Fire-worshipper. Moreover, this is the only collection in India which contains a representative display of the arms, implements, utensils and other objects which were in daily use among the people of historic times. In European museums such objects are, of course, abundant and have done much to illumine the story of civilisation. In India they have hitherto been all but unknown, for the reason that it was only within the last three decades that scientific excavation has been essayed in this country, and during these decades the efforts of the Archæological Department have been largely taken up with the great religious centres of antiquity such as Sārnāth, Sāñchī and Rājgir, which, though supremely interesting in other respects, have necessarily yielded few objects of this kind.

The most important acquisition dealt with by Rai Bahadur Ramaprasad Chanda, Superintendent, Archæological Section, Indian Museum, is the Pearse Collection of Engraved Gems which has been recently placed on loan there by the Director General of Archæology and of which Mr. Chanda gives an interesting résumé. In view of the examples illustrated in Pls. LV-LVI, the proposed catalogue may be expected to appeal to a large public. In the Peshawar Museum interest is concentrated on the fine inscribed relief Pl. LVIII, *a*, dated in the year 89. In preparation for the removal of the arms in the Lahore Fort from the Shish Mahal to the Bari Khwabgah a new floor of Indian Patent Stone has been laid down in the latter building and six wall cases of standard design provided.

The antiquities recovered by Sir Aurel Stein during his expeditions to Central Asia and Baluchistan are now exhibited in two buildings in New Delhi, the frescoes in one building on King Edward Road and the paintings on silk and miscellaneous objects in rooms on the first floor on the east side of the Record Office on Kingsway. Although only a portion of the paintings and miscellaneous objects have so far been displayed an idea can even now be formed of the value of the collection and great interest has already been excited by their exhibition.

The most important epigraphical discovery of the year is another recension, in the Brāhmī script, of the Fourteen Rock Edicts of Aśoka and one of the Minor Rock Edicts. These are situated some eight miles from the town of Gooty on the southern border of the Kurnool District of the Madras Presidency, close to the village of Yerragudi, situated approximately in 77° 34 E. L. and 15° N. L. For this discovery Indianists are indebted to Mr. A. Ghose, F.C.S., F.G.S., of Calcutta, who writes that he found them " when engaged in a geological examination of the extensive diamond mining regions of the Guntur, Kurnool and Anantpur Districts of the Madras Presidency ". Rai Bahadur Daya

Ram Sahni gives below a preliminary description of the Edicts but scholars will await with interest their complete publication in *Epigraphia Indica* by Dr. Hirananda Sastri, Government Epigraphist.

The eight recensions of these Rock Edicts are found on the borders of Aśoka's dominions and it must be confessed that here, as at Shahbazgarhi and Mansehra, the Emperor was but ill served by his officers. At Yerragudi no attempt has been made to dress the six large boulders on which the edicts are inscribed, they are engraved without plan and even when looked for were found with very great difficulty. Scaffolding was necessary to make the estampages and is is a matter of astonishment how in Mauryan days the rocks were expected to be recognized and the inscriptions read. Moreover the extraordinary method of writing the Minor Rock Edict sometimes in boustrophedon, sometimes from right to left and the inscribing of the first six characters of Line 7 at the beginning of Line 5 and the writing of part of Line 7 from left to right and a portion in the converse direction points to a careless execution of the royal command. How ill-displayed are these royal Rock Edicts may be realized from the fact that some fifty years elapsed between the discovery of the first and second inscribed rocks at Shahbazgarhi and a considerable period between the discovery of the first two inscribed rocks at Mansehra and the third one bearing the Edicts XIII ana XIV, although search was made for this. If Rai Bahadur Daya Ram Sahni is correct in believing that the area in which Yerragudi lies was governed in Mauryan day's direct from the royal capital of Pātaliputra we have an early parallel to modern conditions, for even now the frontier provinces are directly under the Viceroy and the recent Statutory Commission recommends that backward tracts should be entrusted to the Central Government.

Of supreme importance to Indian archæology have been the laying down by Sir John Marshall of the office of Director General of Archæology in India which he has held with such distinction for twenty-seven years, and the retirement of Sir Aurel Stein. The former officer, as recorded in last year's report, having been placed on Special Duty and his service extended for five years, Indian archæology will continue to benefit by his explorations and literary activities, but by the retirement of Sir Aurel Stein the Archæological Survey loses one whose services both in length of time and importance have been altogether exceptional. It is unnecessary for me to dilate upon Sir Aurel's researches which have added lustre to the records of the Archæological Survey and touching which the Government of India have given such marks of its appreciation, but it is pleasant to be able to record here that the University of London has added to the long list of Sir Aurel's academic and other honours by awarding to him the first Petrie Medal for Services to Archæological Research. Sir Aurel's eagerly awaited work entitled "Innermost Asia" detailing his last journey to Central Asia was issued in February 1929 and forms a worthy addition to his other monumental publications dealing with that region.

In March 1929 Mr. Andrews' long connection with the Central Asian Antiquities Museum, New Delhi, came to an end. To him the very successful mounting and display of the frescoes is almost entirely due and these and the

antiquities in the museum annex in the Record Office building will long bear witness to his devoted labours.

In the Introduction to the Annual Report 1926-27 reference was made to the need for an amendment of the Ancient Monuments Preservation Act to restrict and regulate excavations and at the same time to provide rules under which non-official agencies, both Indian and foreign might undertake the excavation of ancient sites. The matter has received the consideration of the Government of India and is being referred to the local Governments and Administrations.

In conclusion I would record my obligation to Mr. N. G. Majumdar, Assistant Superintendent, Archæological Survey, who in countless directions has rendered most valuable assistance in the preparation of this report for the press.

H. HARGREAVES.

SECTION I. CONSERVATION.

UNITED PROVINCES : MUHAMMADAN AND BRITISH MONUMENTS.

By Mr. B. L. Dhama.

IN the year under review a sum of Rs. 1,52,551 was expended on the conservation of ancient monuments in the United Provinces. Of this amount Rs. 49,593 were spent on Special Repairs, Rs. 49,620 on Annual Repairs and Maintenance and the residue of Rs. 53,338 on the Maintenance of Gardens. The income derived from various sources was Rs. 30,304 in the United Provinces and Rs. 24,281 in the Delhi Province.

AGRA.

The earth floors of the north-east *chhatri* of the JAHANGIRI MAHAL and those of the rooms in RĀJĀ RATAN HAVELI and the *dalans* in the NAUBAT KHANA of the AGRA FORT were paved with 3″ stone slabs laid over lime concrete. The practice hitherto had been to pave floors with $1\frac{1}{2}''$ thick flags, but these had been found unsuitable and incongruous, the old floors being invariably paved with stones approximately three inches in thickness. Disintegrated parts of the carved plinth of the DIWAN-I-AM were removed and replaced by new stones, to ensure the safety of the superstructure. The latrines and the lane, south of the JAHANGIRI MAHAL, were cleared of *débris* and rubbish. Among the *débris* were recovered numerous pieces of Mughal china now exhibited in the Taj Museum. Many of the pieces are undoubtedly rare and valuable. The excavation also disclosed an entrance under the plinth at the south end of the west face of the Jahangiri Mahal, opening to the lane, obviously meant for the use of sweepers. The effigy of the horse outside the Fort, on the glacis west of the Amar Singh Gate, was enclosed with a suitable stone railing of Mughal design.

As water used to pond in the north east parterres of the TAJ MAHAL GARDEN it became necessary to drain off the storm water, which was unfavourable to the growth of grass and flowers by restoring a part of the old missing drain. A portion of the pavement in the vicinity of this drain had subsided with the result that the surface had a reverse slope. This part was relaid with the slope towards the drain. On the east and north sides of the plinth of the main entrance gateway a few decayed carved panels were replaced by new ones of the original pattern. The ablution tank, in front of the mosque, which formerly leaked very badly in several places, has now been made watertight. As the absence of the fountains in the east and west channels of the inner court of the Taj Mahal Garden detracts from their appearance it is proposed to restore them and an estimate for this work is under preparation.

The modern roof of the eastern room of the north pavilion of the Rām Bāgh was dismantled and replaced by a roof similar to those existing in the other rooms.

Itimadpur.

At Itimadpur on the main road from Agra to Firozabad, at a distance of thirteen miles from Agra, lies the Burhia-ka-Tal, or "the old woman's tank", in which is a double-storied octagonal pavilion surmounted by a dome. Access to the pavilion is obtained from the north side by a causeway carried on arches. Close to the approach, and on the right stands a tomb similar in style to the pavilion. The tank with its pavilion and the tomb were built by Itimad Khan, a eunuch in the service of Akbar. The name Burhia-ka-Tal is said to have been derived from an old woman who used to sit there in ambush and instigate robberies on unwary travellers. Another version is that the name is a corruption of 'Bodhi' owing to the discovery in the tank of several Buddhist sculptures, but nothing is known as to when and by whom the sculptures were found. Before it was declared protected the building was used by the villagers as a cattle shed. During the year repairs were carried out to the leaking roof and several broken *chhajjas* and brackets were restored and the building is now in good order.

Sikandra.

The earth floors of the arcades round Akbar's Tomb at Sikandra presented a dusty and untidy appearance owing to the removal many years ago of the original floor slabs. The arcades have now been paved with stone flooring laid in a geometrical pattern at a cost of Rs. 18,358. The floors of the Nau Mahala *dalans* on the east and west of the main gateway were similarly treated as far as possible within the available allotment. A length of about 150 feet of the south causeway, including a part of the central channel, had sunk restricting the free flow of water to the shrubberies. This defect has now been rectified. On the east front of the second storey of the tomb three displaced brackets and the *jali* railing were dismantled and reset. On the same façade a bracket which had collapsed owing to the oxidation of the iron dowels, was replaced by a new one, copper dowels being substituted in the new work. The restoration of the north causeway was also taken in hand and would be continued gradually as funds permit. A length of 34 feet was restored during the year.

Five decayed brackets on the south side of Mariam's Tomb were replaced by new ones. The land round Itbari Khan's Mosque and Akbar's Horse is owned by private persons and difficulties are experienced in keeping the vicinity neat and tidy. Proposals have therefore been made for the acquisition of the land and the erection of a suitable fencing.

Fathpur Sikri.

Among the conservation works at Fathpur Sikri the most important was the restoration of the Baoli which supplied water to the palaces and gardens (Pl. I, *a*, *b*). The work had been in progress for the last three years and was

brought to completion at a cost of Rs. 7,505. A further length of the city wall south of the Agra gate and Lal Darwaza was rebuilt. It is now proposed to do no further rebuilding of these walls as the work is expensive and much of the original wall is still preserved. The floors of the *dalans* of the Daftar Khana were paved with 3″ stone slabs laid in suitable patterns. Considerable *débris* was removed from the areas situated on the south-east and north of the Diwan-i-Am court, disclosing the foundations of ruined buildings and many architectural fragments. The work of excavation is still in progress.

The DARGAH SHAIKH SALIM CHISHTI is under the management of a committee at whose cost repairs are executed by this Department. During the year the Stone Cutters' mosque and Khanqah were extensively repaired with coarsed rubble stone masonry in lime. A large quantity of *débris* was removed from the latter building and the resetting of stones, pointing, whitewashing and grouting were also carried out. Besides these, much general clearance was done, considerably improving the appearance of the monuments.

KAGARAUL.

The building at KAGARAUL, locally known as the BARAHKHAMBA, is a twelve-pillared pavilion crowned by a dome in the centre and having four small kiosks at the corners. It is square in plan and is remarkable for its excellent proportions and refined details. A sum of Rs. 300 was spent on its repairs which included jungle clearance, removal of several trees, resetting dislodged plinth stones, making the dome watertight and renewing the broken *chhajja* slabs.

ALIGARH.

As usual the Military Department contributed Rs. 500 for the execution of repairs to the FORT at ALIGARH, while the Archæological Department expended Rs. 125 on the pay of the Chaukidar.

NAJIBABAD.

The PATHARGARH FORT at NAJIBABAD was founded by Najib-ud-Daulah about the year 1755. It was declared protected in 1920 and remained in the occupation of the Salvation Army as a criminal tribes settlement till the year 1928. The modern additions to the Fort have been removed and repairs of a minor nature carried out.

LUCKNOW.

The old paint work on the railings of THE RESIDENCY, LUCKNOW, was scraped off and two new coats of silicate paint were applied. The eastern boundry wall of NADAN MAHAL and IBRAHIM CHISHTI'S TOMB was raised two feet to keep out intruders. Two shattered brackets of the SOLA KHAMBA were renewed and the open joints of the stone *chhajja*, filled with cement mortar to prevent rain water from trickling down the walls. As an emergency measure one of the lintels was supported by a steel girder. A portion of the grounds of the DILKUSHA PALACE was fenced with wire to keep out stray cattle. Jungle was eradicated from the building and quarters for the Chaukidars were also constructed.

JAUNPUR.

Two more kiosks of the AKBARI BRIDGE at JAUNPUR were acquired at a cost of Rs. 450 and two broken stone pillars in one of the kiosks on the bridge were renewed in keeping with the style of the monument, while modern additions removed from several of the other kiosks. A *sāl* wood door was provided for the JHANJRI MASJID and the roof was made watertight and two *sāl* wood doors of suitable design were provided for the TOMB of FIROZ SHAH. As agreements have not been entered into with the Mutawallis of the Jami, Atala and Lal Darwaza Masjids, no repairs were carried out at these monuments.

CHUNAR.

The cracks in the roof of the southern *dalan* of the entrance gateway of IFTIKHAR KHAN'S TOMB at CHUNAR were grouted and branches of trees overhanging the building lopped off.

GARDENS.

The ARCHÆOLOGICAL GARDENS of the United Provinces which altogether cover 226 acres and are situated at Agra, Lucknow and Allahabad are administered by the Department of Agriculture. During the year under review unusually high temperatures were experienced in the hot weather, while the rains almost entirely failed. The temperatures were also abnormally high in September and October, the period for sowing flower seeds for the winter display. The season was therefore an adverse one for all gardening operations. Nevertheless the gardens, on the whole, were kept in good condition throughout the year and reflected much credit on the Deputy Director of Gardens and his assistants.

Four lawns and the *patris* along the causeways of the TAJ GARDEN at AGRA were trenched and regrassed. Two vistas were opened out from the central platform to the south-east and the south-west corner kiosks. Flower beds were planted to a suitable colour scheme and the canna and rose gardens made a good display in their respective seasons. New varieties of shrubs, cannas and sweet-peas were obtained and planted in the KHAN-I-ALAM garden. For want of funds the old Mughal garden of RĀM BĀGH could not receive the attention it deserves. A scheme for the representation of the missing channels, causeways and other structural features by means of appropriate shrubberies and flower beds is under consideration. Effect was given to the new planting scheme for the inner enclosure of the ITIMADU-D-DAULAH drawn by Sir John Marshall, save in the case of the shrubberies concerning which details still form the subject of correspondence between the Director General of Archæology and the Deputy Director of Gardens.

The forecourt of AKBAR'S TOMB at SIKANDRA was maintained in good condition throughout the year and now provides a worthy approach to the mausoleum. A new pipe line was laid from the tube well to the grounds within the enclosure and will be most useful when the contemplated new layout is given effect to.

A plot of land adjoining the CROSS MONUMENT in the RESIDENCY GARDEN at LUCKNOW was trenched and regrassed and shrubs and rose beds planted,

completing the layout around this monument. Special attention was paid to the Cemetery enclosure. Some additional shrubs and trees were planted, several of the paths were brick-edged and all of them covered with *surkhi*. The electric motor pump installed last year worked well and provided an adequate supply of water for the existing lawns. Two small plots outside the main lawn of the Dilkusha Palace Grounds were trenched and new rose and flower beds planted and a small shrubbery was planted on one side of the old archway. Casuarinas which had been eaten by cattle were replaced and protected with tree guards.

Allahabad.

The path and *patris* to the west of the Begam's Tomb at Khusru Bagh, Allahabad, were completed and all the paths covered with *moorum*. A system of water pipes was also laid and the layout of this garden, the scheme for which originated some five years ago, has now been completed.

DELHI : MUHAMMADAN AND BRITISH MONUMENTS.

By Mr. B. L. Dhama.

The total expenditure incurred during the year in the Delhi Province on Muhammadan and British Monuments amounted to Rs. 1,15,555, of which Rs. 24,235 were spent on Special Repairs, Rs. 17,889 on Annual Repairs and Maintenance, Rs. 48,500 on Maintenance of Gardens and Rs. 24,931 on Acquisition of buildings and land.

The monuments to which special repairs were carried out are :—(1) Bijai Mandal, (2) Nili Masjid, (3) Idgah at Kharera, (4) Tomb of Najaf Khan, (5) Tombs between Qutb Road and Hauz Khas, (6) Safdarjang's Tomb, (7) Bistdari building at Malcha, (8) Kali Masjid at Nizamuddin and (9) Purana Qila.

The Bijai Mandal stands within Jahanpanah, a city built or enclosed by Muhammad Shah Tughlaq in 1327 A.D. The purpose of this curious edifice is unknown. It may possibly be ascertained when the *débris*, which covers a considerable part of it, has been cleared. This year earth and *débris* were removed from its west and north sides exposing a ramp and certain other structures. Conservation measures carried out at this monument consisted in the rebuilding of the fallen arches in the north *dalan*, filling of the cracks in the ceiling, repairing the decayed masonry in the springing of the arch at the south-west corner and the levelling of the ground to the south of the *dalans* (Pl. I, *c*, *d*). Trees which had taken root in the masonry of the Nili Masjid were cut out from the back wall of the mosque and other vegetation was removed from over all the building. Modern infillings were removed from the openings and the walls of the mosque underpinned. The floor of the mosque proper was relaid with lime concrete 6″ in thickness and the roof made watertight. Repairs were also carried out to the floor and compound wall of the courtyard and a turnstile gate fixed to keep out cattle. (Pl. II, *a*, *b*). Cracks at the south end of the wall of the Idgah at Kharera village and in the soffit of the arches

and the dome of the southern *minar* were filled up. The walls were underpinned and a *chhajja* of red sandstone provided to protect the inscription on the south *minar* from the weather.

Considerable conservation was executed at the TOMB of NAJAF KHAN. Jungle and modern additions were removed from the building, and its broken walls and bastions underpinned. The open joints were pointed and the roof made watertight by relaying six inches of lime concrete. Earth and *débris* were removed from inside the building and the original floor level was exposed to view. The graves in the east and west compartments were repaired and the damaged floor of the passage relaid with lime concrete. Earth and *débris* from the fallen gateway on the east were also cleared and a portion of the enclosure wall on the south-east side was underpinned. The ground around the tomb was levelled and dressed, to afford easy access. The repairs to the tombs between the Qutb and Hauz Khas, referred to in the last year's report have ensured their protection. The surrounding areas which have been cleared of *débris* now present a neat and tidy appearance. A few missing lintels over the arched openings under the domes were also provided. From the arched openings of the *dalans* of SAFDARJANG'S TOMB modern infillings were removed, while on the north and west sides the hidden staircases in the basement were exposed. The work of their restoration is in progress and will be completed next year. The BISTDARI BUILDING at MALCHA on the Ridge, which may have been a pleasure resort or hunting palace of Firoz Shah, commands an extensive view. It was in a deplorable state of disrepair and the special repairs carried out during the year consisted of the removal of trees and other vegetation and the modern additions made by villagers. The plinth, piers of arches and walls, both inside and outside, were underpinned. All the dilapidated staircases were repaired and the blocked staircases in the south wing of the buildings were opened out. Rubbish and *débris* were cleared from the floors and roofs of the building and three inches of lime concrete was laid over them, while the cracks in the walls were also filled in with lime concrete.

The roof of the KALI MASJID at NIZAMU-D-DIN was made watertight and serviceable materials such as shafts, brackets, etc., of the pillars, recovered last year from the *débris*, were carefully stacked. Inside the KASHMIRI GATE on the city wall stood an unsightly modern building out of keeping with the gateway and detracting from its appearance. This building was acquired and dismantled at a total cost of Rs. 24,931 thereby considerably improving the appearance of the monument (Pl. II, *c*,*d*).

GARDENS.

The GARDENS at the Qutb, Hauz Khas, Safdarjang's Tomb, Humayun's Tomb, Purana Qila and Firozshah's Kotla were maintained in good order but the lawns generally suffered from the failure of the monsoon. Nine of the lawns in the DELHI FORT were manured during the months of February and March. The Grevillea screens in the Diwan-i-Am section continued to make good progress and the gardens were maintained at their usual high standard

despite the exceptionally poor monsoon reflecting the utmost credit upon the gardener, Mr. R. H. Lock, and his staff and evoking the admiration of the numerous visitors to the Fort.

PUNJAB : HINDU AND BUDDHIST MONUMENTS.

By Mr. M. S. Vats.

Originally a sum of Rs. 16,024 was sanctioned for the conservation of Hindu and Buddhist monuments in the Punjab during the year 1928-29 and this was later supplemented by an additional allotment of Rs. 3,600. From the total grant, Rs. 3,600 and Rs. 1,524 respectively were allotted to the local Public Works Department for the payment of outstanding bills of the last year in connection with the completion of the Archæological Museum at Taxila and special repairs to protected monuments in the Kulu Sub-Division, Rs. 2,450 to the Superintendent, Archæological Survey, Frontier Circle, for annual repairs and maintenance of Hindu and Buddhist monuments in the Punjab, Rs. 50 to the Superintendent, Archæological Survey, Hindu and Buddhist Monuments, Northern Circle, for registration charges, and Rs. 12,000 to the Director General of Archæology in India for the conservation of monuments at Taxila. As, however, the Public Works Department and the Superintendent, Northern Circle, surrendered the sums of Rs. 1,165 and Rs. 41 respectively, the grant as finally modified stood at Rs. 18,418.

Kulu.

Special repairs to protected temples in the Kulu Sub-Division, *viz.*, the Basheshar Mahādeva at Hut near Bajaura and the Gaurī Saṅkar temples at Nagar and Dasal were completed after two years.

The Basheshar Temple near Bajaura is the finest ancient monument in the Kulu Valley and enshrines a large *liṅga* in the sanctum which measures 8′ 6″ by 7′ 2″. The cella has thick walls so that externally it is 13′ square. It has a small entrance porch (9′ 6″ by 2′ 10″) on the east and corresponding deep niches enshrining well executed images of Gaṇeśa, Vishṇu and Mahishāsuramardinī on the south, west and north respectively. The temple was severely shaken by the earthquake of 1905 and the large blocks of stone, of which it is composed, were displaced in many places. In 1909, the superstructure above the lintels of the porch and niches was restored by resetting the bulged out or disjointed portions, but the lower parts were left untouched, leaving the fissures as before. Since this defect could not now be remedied without removing the superstructure, the fissures were carefully grouted. The large and heavy upper part of the *āmalaka* stone lying in the compound was refixed at the top of the temple and secured by strong copper dowels. The missing portion of the *āmalaka* was restored likewise. To make the cella watertight, vertical cracks round the base of the *āmalaka* and along various joints in the pediments over the portico and niches were grouted with coarse gravel in cement, while fissures in the portico and niches formed by the displaced stone door-frame

were grouted with recessed cement concrete. The most important measures, however, were the provision of two strong rolled steel beam (5″ by 3″) frames to support the door lintel of the cella which had shifted about ten inches inward, leaving a large opening between itself and the lintel, and the insertion of an additional stone lintel of requisite size to fill the gap. Lime used in previous repairs was removed and ugly chips of irregular size which were found inserted here and there in the cella and niches were replaced by appropriate stone blocks (Pl. III, *a*).

Jungle was cleared from the compound and a 7′ wide causeway about 200 yards long provided to give access to the temple from the Simla-Kulu road, west of mile 113. As land could not be acquired in time the causeway was only aligned but not completed. This incidentally necessitated the moving of the compound door from the east to the centre of the west side.

The Gaurī Shankar temples at Naggar and Dasal are in a sound condition and except a little grouting and re-setting of stones no repairs were done to them. But the front of the former was completely blocked by an ugly *dharamsala* used by pilgrims at the time of the *Śivarātri* fair. This was removed and re-erected with the same materials, close to the temple on Government land given free of charge by the Assistant Commissioner, Kulu. *Débris* of another modern building was also removed, and the uneven floor in the yard re-laid. At Dasal the dilapidated wooden door was replaced by a new one of similar design.

Amb.

At Amb in the Shahpur District jungle was cleared from the approach road and the basement of the smaller temple repaired.

UNITED PROVINCES : HINDU AND BUDDHIST MONUMENTS.

By Mr. M. S. Vats.

The Government of India granted altogether Rs. 25,922 for the conservatiou of Hindu and Buddhist monuments in the United Provinces, Rs. 23,799 being allotted to the Superintendent, Archæological Survey, Muhammadan and British Monuments, Northern Circle, Agra, and Rs. 2,123 to the Superintendent, Hindu and Buddhist Monuments, Lahore.

Almora : Jagesvar and Katarmal.

Two important groups of temples at Jagesvar and Katarmal in the Almora District were conserved for the first time. The remarkable group at Jagesar has been fully described by Mr. Hargreaves in the Annual Progress Report of this Circle for the year 1914. Speaking of the inscriptions he says " What is certain, however, is that inscriptions testify to the presence of shrines here in the 8th century and these were, in all probability, not the first erected at the spot. A re-modelling of the entire institution is, perhaps, with some truth, attributed to the reformer Śaṅkarāchārya ". The principal temples were

structurally in sound condition and needed only minor repairs. The compound wall of dry rubble along the side walls of the two pyramidal shrines on the east has been dismantled and re-erected at a distance of six feet behind its old alignment on the east and south to a height of four feet, and its dilapidated portions on the other sides repaired as far as possible with the old material (Pl. III, *a*). To resist the excessive rainfall at Jagesvar, the top courses have been laid in lime. The compound is overshadowed by giant *deodar* trees, the overhanging branches of which were a source of danger to the Navadevī, pyramidal and other shrines. These branches have been trimmed and a walnut tree standing near the western end of the compound removed. The mass of *débris* lying at the north-east end of the compound has been cleared and the *bhogaśālā* (kitchen) which was constructed by *pujāris* against the south wall of the sanctum, removed and re-erected at this spot. Whitewash from the spire and red mud plaster from the *maṇḍapa* of the Jagesvar shrine have been removed and the roof of the latter made watertight by replacing broken slabs. The *soma-sūtra* drain has been cleaned and repaired. Ugly rubble masonry at the sides of the trefoil pediment in front of the Mṛityuñjaya temple has been replaced by well dressed stone blocks of the original size in lime mortar. This temple is the second in point of size and has some brief inscriptions in characters of the 8-9th century on the walls and pillars of its *maṇḍapa* and portico. The trefoil ends of the double curved roof of the interesting NAVADEVĪ shrine had become displaced and a few stones of the roof had also bulged out. The ends have been set back in position and crevices between them and the roof filled with cement grouting to stop leakage (Pl. IV, *a*). Rubble masonry in the left hand side of the trefoil pediment of the northern pyramidal shrine has been replaced by a stone carved like its counterpart on the right side and the bulged out coping reset in position. The level of the present floor has been reduced so as to expose the sills of both the pyramidal shrines. The SŪRYA and NAVAGRAHA temples within the compound and KUBERA and CHAṆḌIKĀ DEVĪ shrines across the Jaṭāgaṅgā stream have been strengthened by underpinning. Jungle has been cleared from the site and such measures as grouting and recessed cement pointing done to all the major and minor shrines wherever necessary.

The SUN TEMPLE at KATARMAL which stands on the summit of a lofty hill on the right bank of the Kosi river above the main road from Ranikhet to Almora is one of the few surviving shrines dedicated to that deity in Northern India. Notwithstanding its comparatively late date, the monument is interesting for the construction of its ceiling which is supported on two large stone beams, for its wooden door profusely carved with legendary scenes connected with the Brahmanical triad, its two boldly carved pillars in the *maṇḍapa* and an *ashṭa dhātu* image (height 4′ 6″) designated ‘Paun Rājā’. The principal measure of conservation executed at this temple was the rebuilding of the broken retaining wall on the south and at the south-east corner. The wooden door was cleaned and open joints in the principal and minor shrines were treated with sunk cement pointing. It is, however, to be regretted that local prejudice does not permit the cutting of a large *pipal* tree at the south-west corner which

has entirely enveloped one of the subsidiary shrines and may in time cause considerable damage to others close by.

DWARAHAT.

The temples at DWARAHAT were fully conserved a few years ago,[1] but it has been necessary recently to fix notice-boards at the entrance to the compound of the Ratan Deo, Mṛityuñjaya and Ban Deo temples and to increase the height of the compound wall of the Kacheri Group on the south and north, to keep out cattle.

LAKHAMANDAL.

The temples at LAKHAMANDAL in the Dehra Dun District have been described by Rai Bahadur Daya Ram Sahni in the Archæological Survey Report for 1923-24. The compound has been cleared of modern accretions in the north, of the *dharamśālā* on the east, of the wooden shed for pilgrims in the south-east and of a flower orchard in the south-west corner. Numerous sculptures and architectural members, such as door-jambs, *āmalakas*, friezes, etc., from various temples littered the site. These, along with others recovered by dismantling modern additions, have been removed to a small sculpture godown built close by for the purpose. Several architectural pieces had, however, to be stacked in the temple compound for want of other accommodation. Since the original floor has been traced below the present one, the compound level will be reduced so as to expose the plinth mouldings of the Lakhamandal temple. The ruined *liṅga* shrine in the northern part also needs conservation and it is hoped to take up this work in the near future.

KASIA.

At KASIA the monastic area on the west was further improved by the removal of heaps of spoil earth lying to the north and west of Monastery 'D'. An inspection path has been made round the monastic area which can now be approached both from the Buddhist *dharamśālā* and the road to the Matha Kuar temple. The modern arch over the later drain at the north-east corner of the verandah of Monastery 'D' has been removed, and the two damaged and bulging gateway bastions on the east repaired. In Monastery 'L', door jambs of cells on the north side were underpinned and the back wall, which had disappeared, rebuilt on the old foundation. The party walls which appeared like ramps were raised to the existing height of the other walls and their tops dressed with clean earth 9″ thick. Similarly, the chambers on the north side of Monastery 'M' have been rebuilt except for the back wall which could not be traced (Pl. III, *c*). Its party walls descend to a depth of about 7′ below the present ground level and considering the size of rooms it is possible that the foundation of the back wall may be hidden below the south wall of Monastery 'D'. Two Stepped buttresses which were constructed several years ago as a measure of conservation and obstructed two doorways, were removed.

[1] *A. S. I.*, 1924-25, pp. 12-13.

Some modern bricks which had been used in some former repair were replaced by bricks of appropriate size. The cells and courtyard were levelled and dressed.

Sarnath.

At Sarnath general repairs were done to all the minor stupas surrounding the Dharmarājikā-stūpa, silt was removed from the drain leading from the forecourt of the main shrine and the whole area freed of jungle.

Belkhara.

The inscribed pillar at Belkhara[1] in the Mirzapur District dated in *saṁvat* 1253 (A.D. 1196), which stands in the midst of fields, has been protected from damage by cattle by the erection of a 10′ square wire fencing carried on square stone posts bedded in lime concrete. It is interesting to add that the present name Belkhara is mentioned in one of the inscriptions on this pillar.

Bijaigarh Fort.

Vegetation was cleared from Bijaigarh Fort in the Mirzapur District, but it will take two or three years more to free the fortifications and buildings therein from the rank jungle which has overrun this monument. A mediæval inscription in Nāgarī characters discovered on a wall of the Fort is illustrated in (Pl. III, *b*).

PUNJAB : MUHAMMADAN AND BRITISH MONUMENTS.

By Khan Bahadur Maulvi Zafar Hasan.

The total amount expended on the Muhammadan and British Monuments in the Punjab was Rs. 88,527 out of which Rs. 45,648 were spent on Special Repairs, Rs. 23,927 on Annual Repairs and Maintenance, and the balance of Rs. 18,952 on the upkeep of the pumping plants at the Lahore and Shahdara Gardens.

Lahore.

The centre of activities was again the Lahore Fort. A scheme for its lay-out was drawn up and submitted to the Director General of Archæology and in pursuance of the same the restoration of the Diwan-i-Am courtyard and Jahangir's quadrangle were taken in hand. The north-east wing of the Mughal palaces inside the Lahore Fort usually designated Jahangir's Quadrangle consists of a spacious enclosure with a central courtyard having continuous buildings on the east and west, and a building known as Bari Khwabgah on the north. To the east and west of the Khwabgah were formerly pavilions of which the one on the east has been recently reclaimed by dismantling a modern structure, while the one on the west has, save for its foundations, totally disappeared. On the south of the courtyard and contiguous with the back of

[1] Cunningham's *A. S. R.*, Vol. XI, pp. 128-130. [For the inscription see R. D. Banerji, *J. A. S. B.*, 1911, p. 763 and Pls. X—XI. *Ed.*]

the Diwan-i-Am, was a range of buildings with a *chabutra* projecting into the courtyard corresponding to that on the north in front of the Bari Khwabgah. This *chabutra* still exists, but its adjoining buildings have entirely disappeared, and are now marked only by their recently excavated foundations. The courtyard was really a garden with intersecting causeways and a central tank with fountains and it is proposed to grass the parterres and plant trees and thus provide an appropriate setting to the adjoining buildings. The old ruined causeways have been restored, the intervening spaces between them levelled and dressed for lawns; the tank, which forms the most interesting feature of the quadrangle, has been provided with marble fountain heads of an appropriate design (Pl. V, *a*, *b*), and a bridge of Agra red sandstone has been constructed to give access to its central *chabutra*, which also has been provided with a marble fountain and paved with country bricks in diaper pattern. The southern *chabutra* which was in a dilapidated condition, has been similarly paved, and in the adjoining area extending to the back of the Diwan-i-Am the foundations of the old ruined walls have been exposed by clearance and excavation. There now remains only the planting of trees and lawns to make the layout of the quadrangle complete. The pipe lines for the supply of water to these plots and fountains have already been laid. A sum of Rs. 4,000 was allotted this year to bring the project to completion, but the Public Works Department, which was responsible for its execution, surrendered Rs. 2,500 of that allotment, and will continue the work next year. The existing original Mughal buildings of this area still await conservation.

The courtyard to the south of the Diwan-i-Am was surrounded by building with entrance gateways on the south, east and west. All these, together with the gateways have disappeared, and are now traceable only by their foundations. It is proposed to indicate the now lost buildings by shrubberies leaving, however, openings at the original gateways, and to lay out the open court with grass lawns and pathways. On account of delay on the part of the Public Works Department in removing the *débris* of certain modern buildings the levelling and dressing of the Diwan-i-Am courtyard could not be undertaken, and the construction of the proposed pathways and steps, being dependent on the execution of that task, had to be postponed causing the surrender of Rs. 9,944, allotted for this work. The operations carried out in this area were the excavation of the site of the old ruined *dalans*, dismantling the central and cross walls, refilling the trenches, thus formed, with earth and clearing it of bricks and brickbats to prepare beds for shrubberies. This necessitated the removal of the old pipe lines laid during the Military occupation. The work was entrusted to the Public Works Department and brought to completion.

The central hall and the side rooms of the Bari Khwabgah has been provided with Indian Patent Stone flooring in preparation for the transfer to the building of the arms, etc., now exhibited in the Shish Mahal.

Other works carried out at the Lahore Fort were rebuilding with reinforced brick work the roof of a compartment of the underground *hammam* at the building No. 29, dismantling certain modern barracks, latrines, steps and a tank in the

Diwan-i-Am courtyard, and clearing accumulated earth and *débris* from certain buildings and underground chambers. Among minor annual repairs, may be mentioned extensive underpinning and pointing of the Fort walls and repairs to the roofs of the Shish Mahal and the Chhoti Khwabgah.

Among the most striking features of the Lahore Fort are the *tahkhanas* or underground chambers to be found under almost all the terraces and buildings standing along its northern wall and under those on the east and west sides of Jahangir's quadrangle. Those on the north seem to represent an extension to the Fort, which, occupying an elevated piece of ground required a massive storied structure to form its northern side. This structure, which is raised to the highest inner level of the fort is double storeyed and the *tahkhanas* lie in the first storey while the chambers on the ground floor are generally blocked up, except a few, which open outside into the so-called moat. Certain *tahkhanas* at the first floor level are also closed, but whether for structural reasons it is difficult to say. Traces are noticeable at numerous places of attempts made probably during the Sikh period to break into these blocked up *tahkhanas* and the ground floor chambers, but the operations seem to have been confined to search for hidden treasures, and were not carried out further to explore the buildings.

Along the north face chambers have been discovered to the east of the marble pavilion, called the CHHOTI KHWABGAH, under a terrace, which is paved with country bricks on edge in hexagonal panels emphasized with an edging of black marble. The ornamental pavement had in two places been repaired with modern bricks, but there were no indications of these *tahkhanas*, until they were brought to notice by the subsidence of one of these patches during the rains of 1928. Examination revealed two chambers filled up with loose *débris* consisting of earth, mortar, brick-bats and blocks of brick masonry. Clearance of this *débris* has disclosed that these two chambers are connected by an archway. They are square in plan each with arched recesses on three sides and the aforesaid archway on the fourth. Above the arches the squares are changed by a pleasing arrangement of stalactite pendentives into octagons, wherefrom sprang the flat arched roofs, which have now collapsed. A wall coated with white *chunam* plaster runs across both these chambers from north to south, cutting off a section of them to the west. The purpose of this wall, which is a subsequent addition, is not certain but it was probably constructed to support the arched roofs, which probably showed signs of weakness and eventually collapsed. The modern brick patches, mentioned above, marked the gaps caused by the fall of the roofs, and it was presumably through these gaps that the chambers were filled up with *débris*. In the course of clearance a few pieces of a modern latticed wooden screen were discovered at a considerable depth in the northern chamber. They are of deal painted with red ochre and similar in design to the screens commonly found fitted to the windows in modern houses in Lahore. Their presence in the *débris* goes to prove that the filling of the chambers was effected at no very distant date.

Curiously enough there is no entrance giving access to these chambers. Traces of two doorways are, however, to be noticed in the southern chamber,

but both of them are blocked up with brick masonry in lime, which in the case of the doorway at the south-east corner is coated with white plaster. The latter doorway opens into a passage which lies at the back of an underground *hammam* to the east, but is not continued. Two furnaces of the *hammam* open into this passage indicating that it was used in connection with heating of the bath.

The other doorway is in the western arched recess of the southern chamber, corresponding to the doorway in the wall. These doorways are connected with a passage containing a plastered wall on either side, and covered with a roof which was supported on wooden planks, but the latter together with the wooden lintel of the doorway having rotted away were found lying below in a heap of charred wood. It may be noted that the passage was not filled up with *débris*, a fact which lends support to the assumption that the filling of the chambers was done through the gaps caused by the fall of their roofs, without, however, any attempt being made to spread the *débris* and ram it properly.

As noted above the doorway in the western arched recess of the southern chamber is also blocked up, but is unplastered. A section of it at the upper end contained a dry masonry infilling of unused bricks, and its removal has brought to light a passage which is again blocked with brick masonry in lime. An attempt was made to clear this passage, but its brick masonry infilling was so tough and strong, that only a very small piece of it could be dismantled, revealing, however another doorway into a *tahkhana* under the Chhoti Khwabgah. The portions of the passage and the doorway exposed to view are coated with white plaster, indicating that they were originally open for use, but with the available data it cannot be said whether the passage ends at the doorway or continues further to the south.

In the northern chamber the arched recess to the north is built up with country brick masonry in lime. It is not coated with plaster, and seems to be modern, constructed to counteract the thrust of the *débris* infilling against the fort wall. Under this chamber there is again a compartment at the ground floor, containing a gallery on either side and a well to the south. The latter is now closed, but above it in the roof of the compartment there is a gap with a wooden beam placed on it crosswise and indicative of an arrangement for drawing water to supply the neighbouring *hammam*. The gap, which is also closed, is marked by a low *chabutra* on the roof above and from it runs a drain connected with an underground one in the southern chamber, where they are joined by a third drain from the *hammam*.

From these facts it is evident that these chambers were connected with the adjoining *hammam*, but when its use as a bath was subsequently discontinued, they were abandoned and their entrance with its connecting passage blocked up. The *hammam*, which is an unpretentious building consisting of several compartments of moderate size, lies partly under the building No. 29, which is assigned to the time of Jahangir. On the erection of the Chhoti Khwabgah and the enclosure appertaining to it, the *hammam* appears to have been found inappropriate in close proximity to a royal palace, and was consequently re-

placed by more elaborate baths constructed at the south-west corner of that enclosure.

Another work of importance carried out at the Lahore Fort was clearing the *hammam* at the south-west corner of the Chhoti Khwabgah enclosure of earth and *débris* and removing the modern partition walls. The building, which is in a dilapidated condition, was used as the royal baths, and originally contained two separate *hammams* on the east and west of the two passages running between them from north to south. The western *hammam*, which was probably intended for the use of princes or ladies of the royal harem, has partly disappeared and is now represented by two compartments, one of which served as a hot bath. The eastern *hammam* consisted of three chambers running from east to west, but of these also the easternmost one has now disappeared. These chambers open into a corridor on the north which appears to have extended to the west connecting the two *hammams*. The south wall, which contained arched recesses presumably furnished with glazed latticed screens has been pierced with doorways, and the ground on that side raised by more than four feet to bring it to the floor level of the *hammam*, with the result that the passages noted above have been blocked up. The latter, which were intended for the use of servants, have been cleared of accumulated earth and *débris* and one of them has been found to contain two furnaces with water reservoirs in the back walls of the *hammams*, and a number of flues running therefrom under the floors of the adjoining chambers. With this arrangement the fire burnt in the furnaces served the double purpose of heating the water of the reservoirs as well as providing the chambers with hot air. Water was supplied from the well to the south of the Maktab Khana, and on the roof of the *hammam* there are traces of a cistern, whence the water was carried through a masonry channel on the roof of the neighbouring arcade and the parapet wall to the north-east and east of the Moti Masjid.

Clearance was confined principally to the eastern *hammam*, which during the Military occupation of the Fort was appropriated for servants' quarters. In order to utilize it for residential purposes partition walls and new door openings were added. Almost all the modern walls have been removed, and the clearance of earth in the last or back chamber has exposed to view the arrangement of flues under the floor, which has partly collapsed. The second or middle chamber is occupied in the centre by a domed apartment with a gallery running round it. But the roof of the gallery on the north and west has disappeared, and the arched openings of the apartment have been blocked up with country brick masonry in lime. The eastern arched opening has now been cleared of its infilling and the clearance of the apartment has brought to light a fine tank lined with slabs of *ajuba* stone.

The first or easternmost chamber seems to have been demolished in British times to allow for a roadway which led to the modern offices (now dismantled and removed) near the Shish Mahal. The taking up of the road has exposed to view another tank of *ajuba* stone octagonal in plan with a channel running round it, and traces of a marble pavement, which seems to have been formerly laid throughout the building but subsequently removed by the Sikh Rulers of

the Punjab for use in their own buildings. The building has not yet been thoroughly explored, and excavations to its north, west and south are likely to bring more interesting features to light.

The *Baradári* attached to MAHĀRĀJA SHER SINGH'S SAMĀDHI at Lahore received special repairs. This *Baradari*, which stands on a raised platform extending to the west, is said to have been constructed by Mahārāja Ranjit Singh, and was the scene of the assassination of Mahārāja Sher Singh. A group of five *Samādhis* to the memory of the Mahārāja, his two wives named Rāṇī Randhavi and Rāṇī Partab Kaur, and certain followers lie on the platform to the west of the *Baradari*[1]. The works carried out this year were the re-building of the retaining wall of the platform on the south and east, re-roofing two rooms of the *Baradari*, providing it with a few *chhajja* slabs, and repairing the doors. The brick masonry pinnacle of the *Samādhi* of Rāṇī Randhavi was restored, and the *chhajjas* of this building and of the old cookhouse were repaired.

NAWANKOT.

According to the recommendations made by Mr. H. Hargreaves in his Inspection Note dated 31st March 1927 the eastern gateway and the two corner towers at the north-east and south-east of NAWANKOT near Lahore were acquired. They are beautifully ornamented with tile mosaics, and are the remains of a Mughal garden said to have been constructed by Zebu-n-Nisa, the famous daughter of the Emperor Aurangzeb. The princess is also said to have built her tomb in her lifetime in the garden, but as fate would have it, she died at Delhi and was buried there in the Tis Hazari Bagh, now known as Tis Hazari Maidan. The tomb at Nawankot which contains an unknown grave erroneously assigned to Zebu-n-Nisa, suffered badly at the hands of Mahārāja Ranjit Singh, who is said to have stripped it of its marble work for use in his *Baradari* at Hazuri Bagh[2]. The former garden is now occupied by the Nawankot village and the gateway and the towers, although declared protected under the Ancient Monuments Preservation Act, were appropriated for residential purposes. Their acquisition was, therefore, a necessary preliminary to their conservation. The buildings have now been vacated and detailed proposals will be made for their repairs and maintenance.

SHAHDARA.

Three appeals were filed by the Punjab Government in the Punjab High Court in 1925 against a decision of the District Judge, Lyallpur, enhancing the award for the acquisition of the enclosure around ASAF KHAN'S TOMB at SHAHDARA from Rs. 13,885-7-4 to Rs. 39,855-5-0[3], and a sum of Rs. 2,385 on account of the court fees together with Rs. 1,300 for the counsel fee was paid this year to the Local Government for conducting the case. The appeals are still pending, and if they succeed, the excess amount paid for the acquisition

---

1 *Tarikh-i-Lahore* by Rai Bahadur Kanhaya Lal, Victoria Press, Lahore, 1884, pp. 213-15.

2 *Tahqiqat-i-Chishti* by Maulvi Nur Ahmad Chishti, Hamidia Steam Press, Lahore, 1907, pp. 570-72; *Tarikh-i-Lahore* by Rai Bahadur Kanhaya Lal, Victoria Press, Lahore, 1884, pp. 312-15.

3 *A. S. I.*, 1925-26, p. 17.

as well as the cost of appeals will be recovered from the parties concerned, and refunded to the Archæological Department.

At JAHANGIR'S TOMB the *chabutra* in front of the main entrance gateway and the southern section of the west causeway, running therefrom to the central tank, have been restored, the former being paved with country bricks on edge in diaper pattern like the original, and the latter in geometrical designs emphasized with black marble outlines (Pl. V, *c*, *d*).

An estimate amounting to Rs. 2,43,672 for works for the protection of KAMRAN'S BARADARI from the ravages of the river Ravi was prepared by the Public Works Department, but was not accepted. A small embankment of dry stone masonry was, however, constructed to support an overhanging water channel and a causeway of the old garden attached to the *Baradari*. Mirza Kamran was the second son of the Emperor Babar and a brother of the Emperor Humayun who after his accession to the throne in 1530, conferred upon him the government of the Punjab, Peshawar, Kabul, etc[1]. As its name indicates, the *Baradari* was constructed by that prince in connection with a now ruined garden which for a long time has been subject to encroachment by the river, which shows a tendency to form a new bed behind the *Baradari*.

ATTOCK.

Preliminary measures for the conservation of the BEGUM-KI-SARAI at ATTOCK were undertaken as early as 1921, but their execution having been unsatisfactory a fresh estimate was framed for its appropriate treatment, and the work was undertaken and completed during this year.

The Sarai lies on the old Badshahi Road from Bengal to the river Indus. The date of its erection is not certain, but it seems to have been constructed or known after Nur Jahan Begum, who crossed the Indus here in company with the Emperor Jahangir, when the latter was seized by Mahabat Khan and carried as a state prisoner to Kabul. It consists of an extensive enclosure with a central courtyard surrounded by arched compartments having verandahs to their front. Each of the four corners of the enclosure is defined by an octagonal bastion, while in the courtyard lies a small mosque standing on a raised plinth. To the north, is a long flight of steps descending to a deep ravine, but the main entrance was through a gateway on the east, which together with most of the compartments on that side has now disappeared. The building, which is in a dilapidated condition, suffered considerably during its occupation by the Military and others when numerous additions were made to it. These additions have now been removed and the damage repaired as far as possible but the Sarai is now a mere ruin of its former self. The main items executed this year comprised the re-erection of the outer walls of the missing compartments on the north, south and west to a height of four feet to fill up the gaps, repairs to the broken arches and jambs, and making watertight the broken masonry of the walls and roofs with lime concrete stained and roughened to match the

[1] *Tarikh-i-Farishta*, Persian text, Nawal Kishor Press, Lucknow, 1905, p. 213.

original work. The removal of an accumulation of earth and *débris* at the north wall and the demolition of a modern *chabutra*, constructed by the Military on the east, have brought to light the steps and traces of the main entrance gateway noted above. The steps are partly preserved and can be repaired at little cost, but the gateway is in too ruinous condition to be restored.

MULTAN.

Special repairs were also effected to the SAWI MASJID at MULTAN. The building, which is really a graveyard, consists of a small rectangular enclosure occupying a raised *chabutra* and is entered on the east through a now dilapidated gateway. Its most prominent feature is the high west wall flanked by two sloping bastion-like minarets, and containing in the centre a deeply recessed *mihrab*. The whole of the west wall together with the minarets and the *mihrab* is profusely ornamented with tile work, which was also repeated on the side walls, (Pl. IV, *b*) but the latter having been subsequently rebuilt with bricks in mud, most of their ornamental tiles have disappeared the remainder being refixed at random. In the courtyard there are several graves, which were ruined by a *gondi* tree, the marble *tawizes* of two of them having fallen into the grave vault broken open by the roots of the tree. The *tawizes* have now been taken out and restored to their original positions, the *gondi* tree has been removed and the whole courtyard cleared and made tidy. The side walls, which were in a dilapidated condition, have been repaired, some of their odd tiles being removed for safe custody. The *kachcha* steps giving access to the gateway have been rebuilt with *lakhauri* bricks in lime, and in the same connection a retaining wall has been constructed to maintain the *chabutra* on the east and prevent further encroachments up on it by the adjoining lane. A supplementary estimate is under preparation to provide for further measures necessary to preserve the building from decay.

The inscribed marble slab, standing to the south of the principal grave deserves special notice. On one face of the slab there is an epigraph in Persian verse which refers to the death of one Safar Quli, giving the date as 10th Shaban of the year 999 A. H. (3rd June 1591 A.D.) and the name of the scribe Rahmatullah. On the other face of the slab the inscription which is also in Persian verse, records a moral lesson taught by Imām Jafar Ṣādiq[1], and contains the name of the scribe Zakariya, son of Usta Muhammad, son of Jiwan Multani. The date given here in letters is in Arabic, and, curiously enough, does not correspond with that carved over it in figures, the former being 1009 (1600-1601 A.D.) and the latter 999 (1591 A.D.) which is the date of the other inscription. It is difficult to account for this discrepancy. The mistake is due possibly to the writer's ignorance of the Arabic language. A few other marble inscriptions exist at the Sawi Masjid, but all are fragmentary and are quotations from the Quran.

[1] Imam Jafar surnamed Sadiq was the son of Imam Muhammad Baqir, the grandson of Imam Husain. He was the sixth Imam and was very famous for his teachings among the Muslims of his age.

GARDENS.

The shrubberies in the SHALAMAR GARDEN at LAHORE, which were planted in the third terrace during 1927-28, are now well established. The beds of cannas on this terrace provided an excellent show during the hot weather, when there was a dearth of other floral embellishment. There was the usual display of annuals around the central tank in the second terrace, both in the autumn and spring, and the profusion of roses in this terrace was much admired.

The only work of importance undertaken at the HAZURI BAGH at LAHORE was the removal of the dwarf *duranta* hedge, which lined the foot-paths, and the replacement of the same by clerodendron, a much more suitable plant for the purpose.

NORTH WEST FRONTIER PROVINCE.

By Khan Bahadur Maulvi Zafar Hasan.

TAKHT-I-BAHI.

Out of a sum of Rs. 9,190 spent on the conservation of the Central Protected Monuments in the NORTH-WEST FRONTIER PROVINCE, the Public Works Department was responsible for the expenditure of Rs. 2,534 (Rs. 1,833 on Special Repairs and Rs. 701 on Annual Repairs) and the Superintendent, Archæological Survey for Rs. 6,656 (Rs. 4,000 on Special Repairs and Rs. 2,656 on Annual Repairs). Besides the usual annual repairs and maintenance, two new works were undertaken, the more important of them being the conservation of the monuments at TAKHT-I-BAHI. An estimate amounting to Rs. 6,672 was framed, and a sum of Rs. 4,000 was allotted against it during the year under review. But the dilapidated condition of the western revetment, noticed subsequently, called for a supplementary estimate amounting to Rs. 4,494, and additional funds were provided for its completion at a total cost of Rs. 9,897. The Sub-overseer in charge succeeded in procuring lintels of local stone, for want of which iron girders had been used in previous repairs.

The main stupa in the Court X[1] has been relieved of its superincumbent *débris* and its top made watertight. The broken walls of the chapels surrounding the court have been underpinned with appropriate masonry, and the same treatment has been accorded the dilapidated domed roofs (Pl. VI, *a*, *b*). The loose *débris* piled upon the northern boundary wall has been removed, and its dilapidated portions while retaining, their broken line have been rebuilt. The steps leading to Courts V and VI have been repaired with stone slabs to match the original, and the chapels in these courts have received treatment similar to those in Court X of the main stupa (Pl. VI, *c*, *d*). The numerous small stupas here have been relieved of superincumbent *débris*, and their tops dressed to a slope which will throw off rain water. A few of them were opened and they seem to have been votive stupas containing no relics. The upper portion of the wall between the Monastery (No. II) and Court No. IV, which was out of plumb,

[1] The numbers given to the various courts and buildings are those shown on the plan of Takht-i-Bahi published in the *Annual Report, Frontier Circle*, for the year 1911-12.

has been dismantled, while the walls of Monastery II have been underpinned and the broken window openings repaired. The clearance of spoil earth in the various courts and rooms led to the discovery of several antiquities, but none of particular interest.

The chief work executed at Takht-i-Bahi was however the repairs to the revetment forming the western boundary of Court IX. At its southern end was a large breach and although this was repaired by the Public Works Department in 1910-11, it later gave way, and continued to be a menace to the structure. On examination it was found that the foundation of the revetment was badly decayed, and the breach was due to its consequent settlement. The breach in the revetment has now been rebuilt and its decayed foundation made solid by reconstructing it with stone in lime. The ground of Court IX was excavated to a depth of some 6 feet and stones and stone chips contained therein were re-rammed. To stop percolation of water, earthen-ware pipes with open joints have been laid on a layer of lime concrete, two feet below the surface, to serve as subsoil drains, the top of the surface has been covered with 2″ of earth brought from the plain, and the area given a regular slope to the south-west, where the section of the existing outlet has been enlarged to drain off rain water more rapidly.

Shahdaur.

The other work of special repairs, undertaken in the Frontier Province was the construction of an enclosure wall around an inscribed rock at Shahdaur, Agror Valley, Hazara District.

BOMBAY PRESIDENCY WITH SIND.

By Mr. G. C. Chandra.

During the year under report a sum of Rs. 29,477 was expended on the execution of works departmentally by the Archæological Superintendent and Rs. 67,304 through the agency of the Public Works Department.

Sarnal.

The repairs to the Galteśvara Mahādeva Temple at Sarnal in the Kaira District, which have been in progress for some time were almost completed. Some of the old stones of the *śikhara* recovered from the *débris* were re-set in their original position and the *maṇḍapa* was practically rebuilt. People are now coming in large numbers to visit this temple despite its remoteness.

Bassein.

Preliminary measures of conservation undertaken in the Jesuit Church and Monastery founded in 1548 A.D.[1] within the Portuguese Fort at Bassein in the Thana District, included the eradication of brushwood and the removal

[1] Campbell, *Thana Gazetteer* (1882), p. 41.

of earth and *débris* from the area covered by the ruins. In the course of the work were exposed the stone paved floors of several rooms, and in one of them a sculpture of a Nāginī was brought to light (Pl. VIII, *c*). A narrow stone pipe was discovered behind the figure and it was found conneeted to a small cistern built just over the head of the sculpture. No trace of its outlet has, however, been found.

Jogeśvarī.

The interior of the Brahmanical Caves at Jogeśvarī in the Bombay Suburban District, which used to remain under water for a considerable part of the year, has now been cleared of the huge accumulation of earth and exposed to its original level. Repairs to one of the disintegrated pillars of the long verandah to the south side were taken up as an experimental measure, and stones of large size were used to reduce the number of joints in the masonry.

Sanjan Peak.

About 14 miles from Sanjan, a station on the B., B. and C. I. Railway, close to the western bank of the river of that name, and in the village Khunavada in the Thana District, stands the Sanjan Peak, also called St. John's Peak and Barat Hill, which commands a distant view of the Arabian Sea. Arrangements for the clearance of the so-called caves on the top of this hill were made departmentally. One irregular rock-hewn cell measuring 41′ by 32′ by 13′ 3″ and having two rectangular pillars, was cleared. The front wall of this cell is lined with masonry of old thin bricks. A flight of steps, partly cut in the rock and partly built up of thin bricks, leads down to the floor level. A number of small cisterns was discovered near the cell. It appears that the so-called cell was originally meant to serve the purpose of a cistern and was subsequently converted into a room. Traces of ancient stone walls, of which only one has been exposed, are visible near the cisterns.

Elephanta, Karla and Poona.

The construction of the open pavilion for visitors at Elephanta in the Kolaba District, started last year, was completed during the year under review. Repairs to the rock-hewn Buddhist Caves at Karla in the Poona District were continued, and the open area in front of them all, except a portion near the Custodian's quarters, was enclosed to keep out cattle and the bed of the newly diverted channel in this open area paved with flagstones. Work at the Shanwar Wada in Poona City consisting of making parapets and walls watertight was continued and the conservation of the Fort Walls should be completed next year.

Junnar.

Proper pathways were provided to the almost inaccessible group of 90 Caves on the west side of the hill fort of Sivaneri at Junnar in the Poona District. This will facilitate the preparation of guide maps of the important groups of Caves by the Survey of India. It may be noted that the traces of fresco paintings

on the ceiling in one of the Vihāra Caves mentioned by James Burgess in 1882[1] are still visible. The whole ceiling was originally coated with a thin layer of mud and divided into square panels in which floral designs were painted in various colours. Of these, red, yellow, black and white tints are clearly perceptible, but no traces of any figures exist. Fergusson assigns these caves to the pre-Christian epoch. The remains of the ancient compound walls and the plinth of the main platform of Habshi Gumbaz at Junnar were laid bare and traces of four gateways to the compound recovered.

Faria Bagh and Pedgaon.

At Faria Bagh in the Ahmednagar District the special work to the water palace was continued during the year. It consisted in exposing the entire terraced bed of the tank by the removal of silt which was used in making rough pathways around the monument. A portion of the wall of the octagonal platform on which the main building stands was completed by fixing suitable coping stones. The Military authorities have transferred to this Department on payment of Rs. 327, land measuring 32 feet in width lying all around the tank.

As a preliminary measure to protect the exposed foundation of Babhaleśvara or Baleśvara Temple, standing close to Lakshmi Narayan Temple at Pedgaon proper, channels were dug to prevent waterlogging and retaining walls constructed around its base.

Ahmedabad District.

In the Ahmedabad District the Public Works Department carried out repairs to nine different protected monuments. Satisfactory progress has been made towards the extensive repairs to the retaining walls around the Mansar Talav at Viramgam. One of the two existing domes of Bahlol Khan Qazi's Masjid at Dholka, which had been leaking profusely, was made thoroughly watertight by grouting and a layer of lime concrete. A disintegrated capital of a pillar in the Zenana gallery of this monument was renewed. Preliminary trial trenches were dug in the compound of the palace of Azam Khan at Ranpur. In the city of Ahmedabad execavation was undertaken to reveal the buried plinth of the Siddi Sayad's Mosque. The main heavy *chhajja* in front of the gateway to the Bhadra Tower at this place, which was threatening to collapse as a result of excessive percolation of rain water and insufficient tail weight, was dismantled after photographs had been taken to ensure its proper resetting. The brick wall to the north side of this gate was also repaired on the lines of the existing masonry. The terraced roof of the Tin Darwaza or 'triple gateway' on the Ritchie Road received attention and decayed wooden beams were replaced by new ones. Repairs were carried out to the compound walls of the Fathi or Phuti Masjid. At the request of the Muhammadan community of Ahmedabad electric light has been installed in Rani Sipri's Masjid and Tomb situated near

[1] *Report on the Buddhist Cave Temples and their inscriptions*, Vol. I, p. 29.

the Astodia gate, the lead-covered wiring having been made as inconspicuous as possible. The local Sunni Muslim Wakf Committee contributed Rs. 618, being two-third of the estimated cost of this work.

Panch Mahals District.

In the Panch Mahals District special repairs to the Khajuri Masjid on the banks of the Bada Talav were resumed during the year and the south wall rebuilt and the pillars re-set in plumb. The works to the Godhra, Halol and Mandvi Gateways of the citadel at Champaner started previously are nearing completion. While removing earth and *débris* which had accumulated behind the south wall of the first gateway, about 40 maunds of coats of mail, greaves, gauntlets, caparisons made of plate mail, rings and some stone balls were discovered. Conservation work was started to the first set of gates of the Hill Fort of Pavagadh and iron gratings were provided to the two openings of the granaries in the Palace of Pattai Rawal on the top of the hill. Preliminary works to the Mahadeva or Kaṅkaṇesvara Temple at Kankanpur started during the year, consisted in cutting jungle from the area around the monument as well as in removing earth, stone and *débris* from all sides of the platform on which stands the triple shrined temple.

Bijapur District.

In the Bijapur District special repairs to the compound walls of the Asar or Athar Mahal or "palace of relics" at Bijapur were undertaken (Pl. VII, *b*). The work of filling in the cracks in the dome of the Gol Gumbaz, removing modern accretions to the causeways, levelling a portion of the inner compound wall at the southern side of the main platform and also repairs to the adjacent reservoir of Masa Bavdi were also taken up. The Executive Engineer has been successful in bringing in water from Begam Talao so as to fill up the tank in front of the Asar Mahal (Pl. VII, *b*). Repairs to the compound walls and the treatment of the area around the incomplete mausoleum of Sikandar Adil Shah (Pl. VII, *a*) and the work of cutting the wild growth of cactus on the ancient city walls were also undertaken. At Badami special attention was paid to the Suvali Temple where a neat low parapet wall has been provided to prevent possible accidents. A model of a gabled roof having a pseudo-queen post truss is cut on its north wall (Pl. IX, *a*), which also bears a male and a female figure. The roof of a temple in the Kontgudi group at Aihole (Pl. VII, *c*) in the same District, was made watertight by providing cement concrete rolls to the open joints in conformity with the original method of construction as revealed in the adjoining temple. At Bevoor conservation of the Rāmeśvara Temple was resumed and the exposed plinth of the entire structure secured on four sides. The Viśveśvara Temple at Hallur in the same District received attention, and its broken stone lintels were supported by angle irons.

Hangal and Vijayadurga.

In the Dharwar District repairs to the Tārakeśvara Temple at Hangal were started and the open joints in the *śikhara* and cracks in the terraced roof

of the *maṇḍapa* were filled. Repairs to the FORT at VIJAYADURGA in the Ratnagiri District for which notes had been drawn up in 1915 were commenced during the year. Only a small portion of the wall between bastion Nos. 2 and 3 and a gap in bastion No. 4 could be completed with the grant allotted for the purpose. It is one of the best sea-forts on the Konkan coast and stands on a good harbour.

RAYGAD, DEOTHAN, ANKAI, GHODEŚVARA.

The work in connection with the retaining walls around the *chhatri* constructed over the *samadhi* of the Maharaja Śivaji at RAYGAD in the Kolaba District has been completed (Pl. VII, *d*) and the preliminary work to the Hindu-Jain temple at DEOTHAN in the Nasik District, mentioned in last year's report, was completed. Some nine damaged Jain images of the Digambara sect were recovered from the ANKAI CAVES in the course of excavation. Conservation of the BEGUM'S TOMB and MASJID at GHODEŚVARA in the Sholapur District was started during the year under report and satisfactory progress was made towards building a portion of the long retaining wall behind the masjid.

SIND.

In Sind only three special repairs were taken up namely to the Tomb of MIR SHAHADAD at SHAHADADPUR in the Nawabshah District, the SATYAN-JO-THAN at ROHRI in the Sukkur District and the FORT at NAOKOT in the Thar and Parkar District.

BIHAR AND ORISSA.

By Mr. Mohammad Hamid Kuraishi.

A sum of Rs. 57,611 was expended on the Conservation of Ancient Monuments in the Central Circle during the year under review. Of this sum Rs. 29,503 were spent in the Bihar and Orissa Province. With the exception of the operations at Nalanda in Bihar, which were carried out by the Archæological Superintendent direct, all conservation work in the Central Circle was done through the agency of the Public Works Department.

NĀLANDĀ.

On the conservation of the excavated remains at NĀLANDĀ an allotment of Rs. 6,000 was spent in full. At the STUPA SITE No. 3 the repair of the north-west corner tower of the 5th stupa in the sequence of seven that are contained within this mound was completed, and the box walls of the 6th stupa encasing it were underpinned with brick, the face of the bricks used in the underpinning being cut away to stimulate the original brick hearting that had previously been cut through to expose the 5th stupa tower. The original earth infilling in these box walls has been replaced where structurally necessary by concrete left rough on the surface. The remains of the 5th stupa berm adjoining this tower have been relaid with concrete sloped to drain away into the bottom of the "box" around the tower, which again has been made watertight with a

concrete floor and provided with a drain through the enclosing wall on the west to carry rain water away outside the stupa. The berm of the 6th stupa has also been relaid with concrete along the west and south sides of the mound; and the preserved portions of the original stair that ascended to the top of the stupa has been provided with concrete treads in accordance with the old remains. Its stepped sidewall has also been repaired and provided with concrete copings to match the original work. The disturbed-brick hearting between the 6th stupa stair and the 5th stupa stair below it, has been replaced by a retaining wall of brick in lime, cut away on the face to match the cut face of the original hearting so that the 6th stupa stair has been securely supported in position while the original appearance of the structure beneath it has been retained. (Pl. X, *a*, *b*). The broken concrete treads of the 5th stupa stair below it have also been repaired. A low *chabutra* projecting from the north front of the 6th stupa, at its north-east corner, as well as the old brick pavement adjoining it has been repaired. The remains of some small votive stupas, contemporary with the 7th stupa, have been conserved and the *débris* below them, which had to be cut through to expose the earlier 6th level, has been replaced by concrete underpinning. The broken remains of original concrete paving at the foot of the 6th stupa stair on the north front have been taken up and the area relaid with new concrete, sloped slightly to drain away rain water from the stupa. The ground along the east façades of the 5th stupa and of the 4th stupa exposed behind it, has also been treated with concrete. Some fifty small votive stupas along the south and west front of the stupa mound have also been repaired. These stupas, like the main stupa itself, are of more than one period, and the indications of this have been carefully preserved in the repair.

The conservation of MONASTERY SITE NO. 1 was almost completed in the previous year, but a number of minor works remaining to be done were brought to completion. The original low parapet wall in front of the west entrance hall has been repaired and its concrete coping relaid between the existing stone column bases still *in situ*. Similar repair of the concrete threshold behind the entrance vestibule was also executed. In the interior courtyard, the remains of a brick moonstone *chabutra* belonging to the second level were repaired and the ground of the third, or Deva Pāla, level of the courtyard rammed with brick-bats so laid that water would drain into the lowest level exposed, whence it will be carried outside the building through an original drain at this level in the north-east corner of the monastery. The earth ramps, that had been left between the remains of the three earliest levels exposed in the courtyard, have been refaced with concrete to make them secure against erosion in the rains and to mark the original *débris*. The top surfaces of these different levels have themselves been rammed with broken brick as a protection against the weather. The floor of the Deva Pāla shrine on the east side of the Monastery and also of a number of adjoining cells together with the verandah in front, were relaid with concrete. A new drain was cut at the north end of the verandah through the high later wall that separates this third level shrine from the courtyard, to carry away the water that would otherwise collect in the shrine.

The floors of the cells and their adjoining verandah of MONASTERY SITE No. 4 that have been exposed at the earliest level in the north-west corner of this monastery, have been relaid with concrete and the difference between this level and the Deva Pāla level next above is being negotiated by means of a concrete retaining wall left rough to represent the *débris* between them. The whole of this site, with its three separate main levels of occupation, is being drained by way of this earliest level through the east enclosing wall of the monastery by means of a new channel cut through the lateral walls of the verandah and cells. The doorway of the little cell flanking the entrance gateway on the west at the Deva Pāla level which was blocked with *débris* has been cleared and the later wall above has been supported on a concrete lintel at the level of its foundations.

Outside the entrance gateway are the remains of a wide stair that once gave access to the topmost monastery built on the site. This stair with its stepped side-walls has been repaired and provided with new concrete treads in accordance with the existing remains. The collapsed walls of the cells on the east side of the courtyard of MONASTERY ANNEXE SITE No. 5 were dismantled in part and built up again, the little corbel-headed doorways leading from one cell to another being carefully reconstructed. Here the cells are arranged in three groups or suites, each being entered through only one of the cells composing it. The verandah doorway of this entrance cell is provided with a short brick cornice, in contrast with the corbel-headed doorways in the lateral walls, and this is being reconstructed in the repair.

Two original drains run parallel west to east across this site and each in its time was used for the drainage of Monastery No. 4 adjoining. The more northerly drain, which is at a slightly lower level than the other, is being repaired and made use of again to carry away the drainage of Monastery No. 4. The southern drain is similarly being repaired and re-used to drain this annexe, the respective courses through the crossing walls being opened up again and widened to allow of easy clearance. Both these drains will discharge outside the east façade of the annexe, which is in alignment with the east frontage of the monastery range.

MONASTERY SITE No. 6 discloses two periods of occupation. Conservation at this site consisted in the building up of the enclosing walls on the south and north sides of the monastery at the Deva Pāla level. The tops of these walls were made watertight with a layer of concrete which was concealed beneath brick hearting in mud in order to give as natural an appearance as possible to the ruined structure. The old brick paving over the southern half of the monastery courtyard at this upper level was found very badly shattered and potholed. This is being taken up in its entirety and replaced with new paving laid in the same way and with bricks of the same size as the old, but with suitable provision for drainage. Two sets of long cooking *chulhas*, one in the west half of the courtyard and the other in the east, which had been let into the original paving have been repaired. In the south-east corner of the monastery at this level the remains of a dog-legged stair that once led to the upper storeys have been

repaired, and its concrete treads and landing reconstructed. A low parapet wall of the entrance gateway on the west was rebuilt in accordance with the existing remains, and the badly broken floor of the gateway itself and of the vestibule behind it was relaid with concrete. In accordance with the scheme to exhibit as much as possible of both levels a portion of the corresponding floors of the earlier structure below had been exposed on the north side. These also were relaid with concrete and the later floor above them supported on concrete retaining walls. The drainage of this site is being arranged, from the later structure above into the earlier one below, and thence through the east enclosing wall of the monastery to discharge outside the site. For this purpose a new drain is being cut from the north-east corner of the courtyard, through the verandah and an adjoining cell, since no original drain from the courtyard has been found at this level.

The principal conservation done this year was at MONASTERY SITE No. 7. Here, there appear to be three main levels of occupation. The middle one seems to be contemporary with the Deva Pāla stratum. The uppermost structures were revealed in the excavations of the previous year, and work was now concentrated on the repair of these remains as a preliminary to excavating the next level below. The walls of thirty of the cells along the four sides of the monastery at the uppermost level have been built up breast high, and the indications left in the old brick jambs of the original joinery in the doorways have been carefully preserved and repeated in the new work, though the joinery itself will not be replaced. Little "L" planned niches and the slots for the door bars, of which evidence also existed in the old door jambs, have been repeated in the repair. About half of these cell walls so far have been made watertight with a layer of concrete finished off with brick hearting in mud. The enclosing wall of the monastery at this level along the north and, in part, the east sides has also been built up approximately to the height of the cell walls attached to it and the bed-recesses in the back of the cells reconstructed in accordance with the existing portions. Some idea of the magnitude of this work will be gathered from the fact that the enclosing walls of the monastery measure 200 feet one way and 170 feet the other and are 8 feet thick, while the walls of its thirty-four cells average some five feet in thickness. Along the south verandah of this monastery the Deva Pāla stratum next below this level has been exposed, and here again the low remains of the ruined verandah walls have been dismantled and rebuilt, together with the jambs of the cell doorways in it. Care has however been taken to preserve all the features of the old work in the new underpinning. This verandah wall was too badly bulged and shattered for any other treatment, since it has to sustain the weight of the later wall built upon it.

Some 80,000 of bricks of the special large "Gupta" sizes 15″×10″ and 12″×8″ were made and burnt on the site by the Archæological Superintendent at a cost averaging about Rs. 22-4-0 per thousand, and the equivalent of some 128 feet of reinforced concrete lintels, 12″×6″ in section, was also constructed at a cost of 8¼ annas per foot. The bricks are needed for the appropriate repair of the old remains, and the lintels for the support of later structures erected on

the ruins of earlier ones where the alignment of the later structure projects beyond that of the earlier.

Rajgir.

A sum of Rs. 1,045 (exclusive of Agency Charges) was spent on the conservation of the Jarasandh-ki-Baithak at Rajgir. The terrace on the top of the *baithak* and of the *chabutra* thereon was relaid with new concrete and the damaged brick walls of the platform on which stand some Muhammadan graves were also repaired.

A short length of the Fort Wall of "New Rajgir" also received attention (Pl. XI, *a*, *b*). This portion of the wall is situated immediately opposite the Dâk Bungalow and is in a relatively good state of preservation. Here the passage of the South Gate was cleared of *débris* and re-paved with smooth faced boulders, and the gate piers were raised to a height of about five feet from the paved floor of the entrance by rebuilding with similar heavy boulders set in dry masonry. *Débris* and jungle were also removed from the immediate vicinity of the plinth piers and flanking bastions of the Gate; and the tops of the side walls rebuilt with heavy boulders, the whole operation costing Rs. 1,146.

Rohtasgarh.

At Rohtasgarh in the Shahabad District a sum of Rs. 6,053 was spent on conservation as well as Rs. 3,441 on urgent repairs to the Palace and other monuments in the Fort. The latter works comprised the dismantling and rebuilding of a couple of oriel balconies projecting from the west façade of the Palace, constructing a buttress against the west adjoining wall of the Ghazi Darwaza, which was bulging outward, re-terracing the roof of the Kathautia Gate, rebuilding the fallen compound wall of the Jami Masjid of Sher Shah and restoring the missing portions of the stone pavement of its courtyard.

Sassaram.

Repairs to the Suri Monuments at Sassaram were continued at a cost of Rs. 2,556, leaving only a few items for completion.

Cuttack.

On the conservation of the East Gateway of the Barabati Fort at Cuttack a sum of Rs. 678 was spent principally on the removal of the remaining roots and trunk of a great *bar* tree, and the filling in of the rooms on either side of the gateway with broken brick, stone and sand, and the consolidation of the roofs with new concrete.

CENTRAL PROVINCES AND BERAR.

By Mr. Mohammad Hamid Kuraishi.

Burhanpur.

The extension of the revetment wall constructed in the previous year below a half ruined *chhatri* of the tomb of Shahnawaz Khan at Burhanpur has, it is

hoped, checked further erosion of the high river bank on which the monument stands[1] (Pl. XI, *c*, *d*). In the *Nimar District Gazetteer* (p. 217) Shahnawaz Khan has been described as "a soldier of fortune whose sister was married to the Emperor Shah Jahan" and who subsequently become a recluse.[2] This, however, is not a historical fact. Shahnawaz Khan was a son of the Khan Khanan Mirza Abdur Rahim Khan, and a grandson of the Khan Khanan Bairam Khan. His father and grandfather being thus among the highest officials at the Mughal court, Shahnawaz can hardly be described as a soldier of fortune, much less as a saint. The younger Khan Khanan (*i.e.*, Shahnawaz Khan's father) was the Governor of the Deccan for a long time during the reign of Jahangir. A well preserved Serai and a set of ruined *hammams* bearing a contemporary inscription of Mirza Abdur Rahim Khan Khan-Khanan may still be seen at Burhanpur which was the capital of the Deccan under the Mughals. Shahnawaz received the enviable title of 'Bahadur' in the 47th year of Akbar's reign (1010 A.H.) as a reward for defeating Malik Ambar of the Deccan near Nander. In the 10th year of Jahangir's reign (1024 A.H.) when Shahnawaz Khan held the command of the Fort of Balapur in Akola District, he again inflicted a crushing defeat on Malik Ambar at Khirki now known as Aurangabad and was made a *panj-hazari*. He was in charge of the newly conquered districts of Balaghat in the Nizam's Dominions for sometime before his death. His real name was Mirza Iraj and he is described as a handsome young man of excellent temperament, a brave soldier and a wise statesman. He drank himself to death in the prime of his youth (1619 A.D.)[3].

One of the oldest and most interesting monuments at BURHANPUR is the BIBI-KI-MASJID. Here a sum of Rs. 1,508 was spent on the rebuilding of a retaining wall, raising the height of a part of the compound wall to keep animals out of the mosque, the replacement of the old door shutters by new ones of appropriate design, the removal of *débris* from the courtyard and the provision of a drain from the bath room. A further sum of Rs. 261 was spent during the year on raising the height of the angle *guldastas* on two of the façades of NADIR SHAH'S TOMB to the level of the parapet which they originally topped.

AKOLA.

A special repair estimate of Rs. 2,253 (exclusive of Agency Charges) was funded during the year under report for carrying out repairs to the DAHI-HANDA GATE at AKOLA, the KHIRKI GATE and the south-east angle bastion of the outer city wall and the HAWA KHANA BASTION of the inner city wall. The principal items of conservation were the removal of vegetation, restoration of a couple of damaged *kanguras*, making watertight of the top of the south-east angle bastion, repairing and rebuilding a short length of wall adjoining the Khirki Gate, removing *débris* from the top of the Dahi-handa Gate and its flanking bastion, re-terracing the same with new concrete, and underpinning the Hawa Khana bastion, and the Dahi-handa Gate and its adjoining walls and bastions.

---

1 *Vide A. S. I.*, 1924-25, p. 34.
2 This description has been followed in *A. S. I.*, 1924-25, p. 34.
3 *Maāthirul-umarā*, Vol. II, pp. 645-48.

Narnalla.

Towards the conservation of the Hill Fort of Narnalla a sum of Rs. 4,536 was spent. A retaining wall was constructed to support an overhanging section of a bastion outside the Shah Nur Gateway and dense jungle growing near the buildings and on the Fort walls and bastions was removed as was also the disfiguring lime pointing from the fine Mahakali Gateway and whitewash from the Ambar Mahal and the beautiful little mosque near by.

Lonar.

At Lonar in the Buldana District a sum of Rs. 1,025 was expended on rebuilding the fallen east enclosure wall of the "Square" Kund and on petty repairs to the steps and terraces around the reservoir.

Tilota Khairi.

The Rakshas Tilota (or Giant's frying-pan) at Tilota Khairi in the Bhandara District (Pl. IX, *b*) is a cromlech consisting of a huge hammer-dressed elliptical stone slab sustained on three vertical stone supports enclosing between them a space of 6′ 9″ by 5′ which is about 4′ 6″ high. The covering slab is 15′ 9″ long and 11′ 6″ wide. It is about a foot thick in the middle though quite thin at the edges which, like the rest of the slab are also rough dressed. The slab had tilted backward throwing all its weight on the stone uprights at the back, two of which had already succumbed under the pressure. New stone pillars were erected here to lend support to the covering slab.

Chanda and Drug Districts.

Special Repairs to the Hanuman Khirki, the Pathanpura Gate, the Chor Khirki and the Jatpura Gate of the Fort at Chanda have now been completed at a total cost of Rs. 15,832 and the roofs of these Khirkis and gates and adjoining bastions have been made watertight. A sum of Rs. 650 was spent during the year for carrying out urgent Special Repairs at the Bagar Khirki. The bastion at the east end of the adjoining wall being cracked in half a dozen places on the outside, while its outer wall had separated some four inches from the flagged paving on its roof. The paving itself had sunk considerably in the middle allowing rain water to collect and penetrate into the interior which being of rubble in mud had begun to subside causing the displacement of the bastion wall. All these defects were removed and the remainder of the work is expected to be funded and finished next year. Clearance of jungle from the walls and bastions of the small Marhatta Fort at Wairagarh in the Chanda District cost Rs. 188 and the conservation of the Sītā Devī Temple at Deorbija in the Drug District was completed at a total cost of Rs. 624.

Saugor District.

In the Mahadeo Temple at Karonda in the Saugor District the cracked front lintel of the porch has been supported on a pair of angle irons, the leaking portions of the roof made watertight, the south and east parapets of the porch

repaired and a crack in the masonry at the junction of the porch and the adjacent shrine filled in with cement mortar. On the MAHADEO TEMPLE at PALI a sum of Rs. 403 was expended during the year for rebuilding with dressed stone masonry, the fallen upper portions of the north, south and west parapets of the shrine walls and for providing a stone in lime facing to the temple platform. A supplementary estimate for Special Repairs to the temple has been called for wherein provision will be made for stone pavement on the top of the platform and for carrying out other minor repairs at the monument which is one of the oldest extant in the district and is a good specimen of later mediæval architecture.

BILHARI.

In the Jubbulpur District a sum of Rs. 103 was spent on the VISHṆU VARĀHA TEMPLE at BILHARI bringing its conservation to a successful completion. All the sculptures lying about the temple were collected and placed against a small platform in the south-east corner of the enclosure, and the stone pavement of the large temple platform was made watertight by pointing the joints with mortar, toned down to match the weathered surface of the old pavement.

BENGAL AND ASSAM.

By Mr. K. N. Dikshit.

BENGAL.

The programme of conservation in Bengal during the year 1928-29 carried out at a cost of Rs. 27,082 embraced, besides the usual works of annual repairs and maintenance, twenty one items of special repairs, the total expenditure on which amounted to Rs. 17,021-8-0.

PĀHĀRPUR.

The only work carried out directly by the Archæological Superintendent in Bengal was the conservation of the excavated temple at PĀHĀRPUR in the Rajshahi District at a cost of Rs. 4,171. The architecture of the main temple and the measures undertaken so far for the preservation of the structure have been discussed in the last two years' reports, so that it will suffice to mention here the details of this year's work. The portions taken in hand were the walls of the *maṇḍapa* on the east, north and west, the antechamber on the east and the high walls of the circumambulating passage on the south-east and south-west (Pl. XII, *a*, *b*). The old decayed masonry of the leaning walls was in each case carefully dismantled, and the rebuilding done strictly in accordance with the old outline, with bricks of proper size, and in recessed cement or lime mortar, special care being taken to preserve the original appearance. The basement and firss terrace walls were also repaired, where necessary and a persistent campaign carried on throughout the year for the eradication of the rank vegetation growing over the monument. The well-defined rooms and verandahs reclaimed by excavation last year from jungle-clad mounds, were also kept free

from vegetation and maintained in good repair by rebuilding patches of displaced masonry and making arrangements for the drainage of rain water from each cell. The main problem at Pāhārpur is the preservation from the deteriorating effects of rain and subsoil water, of the valuable terracotta plaques and stone images *in situ* in the walls of the basement.

Vishṇupur.

One of the most important centres of conservation in Bengal is the picturesque old Hindu capital known as Vishṇupur in the Bankura District where a number of temples, gateways, canon, etc., dating from the fifteenth to eighteenth centuries are preserved. The dynasty, which maintained its semi-independent character in the jungle tracts of Mallabhoom for centuries, at last came to an end after the devastations carried on by the Bhonsle's hordes of cavalry in the third quarter of the eighteenth century. The religious zeal of the Vishṇupur Kings, who were mostly staunch devotees of the neo-Vaishnava School of Chaitanya, found expression in the embellishment of their capital by beautiful temples mostly dedicated to Krishna, under a variety of names. The Vishṇupur Rajas were responsible for introducing several new forms of architecture peculiar to Bengal, such as the *Rās-Mañcha*, *Jor-Bāṅglā*, *Pañcha-Ratna* and other temple types. A comprehensive programme of conservation carried on for several years since 1920-21 has now placed the monuments in the charge of the Department in a structurally sound condition. Most of the temples were 'living' a few years ago, but with the progressive diminution of the funds endowed by the Raj for the maintenance of worship, temple after temple fell into disuse, till at last, the idols were all collected in a temple contiguous to the Raj palace, where '*bhoga*' as also other regular worship was offered by the priest appointed by the Raj. This temple known as the Rādhāśyām temple, is the last of the series at Vishṇupur, having been built by the last prince Chaitanya Sinha in 1758 A.D., as we know from an inscription on the façade. The interest of the inscription lies in the fact that it is the only one at Vishṇupur in which both the Malla and Śaka years are mentioned, thus providing the key to the calculation of the dates in the Malla era. As regards architectural features, the temple is built of laterite, has the usual curved cornice, the recessed tower and the façade ornamented by panels, although the later date is betrayed by the superficial character of the relief-work and the ribbed dome of the tower. In the absence of a cook-shed, the cooking of the '*bhoga*' was hitherto done in the verandah of the temple, spoiling the appearance of the sculptured walls. This year, a separate cook-shed was provided at a cost of Rs. 542 by which it is hoped that it will be possible to maintain the temple in a reasonably satisfactory condition.

Gaurangpur.

Another interesting monument under special repairs during the year was the Ichhai Ghosh Temple at Gaurangpur in Burdwan District where Rs. 445 were expended. The temple, a simple brick structure with little attempt at ornamentation, is said to have been built by Ichhai Ghosh in honour of them

goddess Bhagavatī about 200 years ago. It is square in plan with five recessed angles on each side, the *śikhara*, about 120 feet high, and one of the tallest in Bengal, having an almost rectilinear outline, sharply curving towards the top. The circumstance coupled with its isolated position in the midst of thick jungle bordering on the Ajay river, makes it difficult to attend to the annual clearance of jungle. It was, therefore, found necessary this year to erect elaborate scaffolding for the removal of vegetation from the tower, some of the trees having attained a height of 10 feet since the last repairs undertaken some four years ago, and to make good the damage caused by the penetration of the roots in the masonry.

Rampal.

The most important work in hand carried out through the agency of the Public Works Department, and one of the most extensive so far undertaken in Eastern Bengal, was the special repair to the Baba Adam Mosque at Rampal in Dacca District, on which a further sum of Rs. 6,949 was spent during the year making a total of Rs. 12,220 so far expended on its conservation. An account of the historical and architectural features of the mosque was included in last year's report[1]. It will suffice to note here the main improvements carried out during the year, which have placed the monument once for all in a condition worthy of its antiquity and importance. The entire renewal of the front façade with its gently curving cornice and sparsely ornamented surface, has greatly improved the appearance of the monument (Pl. XII, *c*, *d*). The jambs and arch rings of the front doorways have been renewed, after grouting the existing masonry. All the openings have been fitted with expanded metal doors in wooden frames. Land has been acquired on all sides of the mosque and the trees and bamboos which obstructed the view, have been removed. Many improvements have also been effected in the interior, including the substitution of suitable reinforced concrete capitals for the missing stone ones of the pilasters in the west wall. The old worn-out floor was dug out and a new floor laid. In course of renewal of the floor, it was found that the base of the two stone pillars supporting the domes had battlement mouldings which had been hidden under the later floor. Care was taken to expose them properly before laying the new floor. There are no apertures for admitting light except the front doors and it is not possible to pierce any fresh openings through the thick walls on either flank. At the request of the congregation using the mosque for prayers, it was, therefore, decided as a special case to whitewash the plain portion of the brick walls on all sides, except on the east, and thus improve the lighting. The new domes have been crowned by cylindrical stepped finials, copied from existing specimens. The local people desired the extension of the corner minarets above the cornice line, but in the absence of any authentic prototype in the vicinity, it was not considered desirable to accede to the request. Except the fencing of the area, all other items of work provided in the estimate have been completed.

---

[1] *A. S. I.*, 1927-28, pp. 43-44.

PANDUA.

At PANDUA, one of the twin capitals of the independent Sultans of Bengal, the programme of conservation included special repairs to the great ADINA MOSQUE built by Sikandar Shah. Probably due to unequal settlement of the foundations, the massive stone pillars near the Badshah-ka-Takht jeopardised the safety of the brick arches and domes. Steps were, therefore, taken to strengthen the weak arches by inserting bent angle-iron pieces and carefully filling them up by brick work. The small door in the west wall, originally intended to be the private entrance of the King, was repaired by filling up gaps in the stone lintel and door jamb by stone masonry. A large quantity of stones mostly belonging to older Hindu structures, and which must have been demolished for the construction of this stupendous mosque, is still lying outside on the north and south sides, and steps are being taken to sort out and arrange the architectural stones, images, pillars, etc., separately. It seems probable that the mosque was never properly completed and all the materials brought were not utilised.

GAUR.

The CHAMKATTI MOSQUE at GAUR is a pretty but much dilapidated mosque. It consists of a square chamber with a front verandah. When first taken over by the Archæological Survey, the facing of the outer walls of the mosque had disintegrated and damage had been caused to the ornamental brick work of the main room by moisture penetrating through the decayed masonry of the dome, but sufficient remained to show that the decoration of this little mosque was conceived in good taste. The replastering of the dome and the recessed pointing of the exposed walls executed some years ago have arrested the decay of the brick-work. The weakened pillars of the verandah, which has lost its roof, were this year strengthened by grouting and recess pointed at a cost of Rs. 265.

BURDWAN.

The tombs of BAHRAM SAKKA, KUTB-UD-DIN and SHER AFGAN, situated in the Pir Bahram quarter of BURDWAN, underwent special repairs during the year at a cost of Rs. 550, the main item being the replacement of the worn-out wood-work of the beams by mild steel joists. The monument is a plain brick structure within a large compound. Its interest is mainly historical, being reminiscent of the romantic episode of the beginning of the reign of the Emperor Jahangir, who after several unsuccessful attempts aimed at the life of the valiant Sher Afgan, the first husband of the Empress Nur Jahan, commissioned his foster-brother and Subahdar Kutb-ud-Din to kill his rival, which the latter could only accomplish at the cost of his own life. The saint Bahram Sakka whose tomb lies in the same enclosure was a renowned saint and contemporary of the Emperor Akbar. As his name Sakka implies, he was at first a water-carrier at Mecca and Najaf. He then went to Delhi and gained the favour of the Emperor, but was eventually forced to leave the place owing to the jealousy of other courtiers and settled at Burdwan where he died within three days of his arrival. The tomb was subsequently richly endowed by the Emperor Akbar, and a small allowance is still made by Government towards the expenses of the shrine.

ASSAM.

The total expenditure on the monuments in Assam amounted to Rs. 12,134-9-0 of which Rs. 2,542-8-0 were spent on the annual repair and maintenance charges, Rs. 4,592-1-0, on special repairs and Rs. 5,000 to meet the establishment charges.

SIBSAGAR.

Among the monuments preserved by the Department in the Eastern Circle the AHOM PALACES at GARHGAON, 8 miles to the east of SIBSAGAR and the RUNGHAR PAVILION and KARANGHAR PALACE of the Ahom Kings at RANGPUR, three miles to the south of Sibsagar are almost the only monuments of a secular character. Of these, the palace at Garhgaon, which was the earlier capital of the Ahom Kings until the end of the seventeenth century, is a pretty five-storied mansion and has several times undergone extensive repairs. The Karanghar palace at Rangpur, was built for Rudra Singh, the King of Assam (A.D. 1696-1714) by an architect named Ghanasyam from Koch Bihar, who is said to have been put to death by the King on suspicion of having betrayed the plans of the palace to the Muhammadans. The palace must originally have been an extensive brick-built edifice of which the ground storey was intended for the use of animals and palace attendants and retainers, and the upper floor for the members of the royal household. Only a few of the rooms in the upper floor have survived and the repairs so far executed have been confined to the clearance of jungle on the extensive terrace of the first floor and to the execution of petty repairs to the brick masonry of the rooms. The ground floor, of which large portions were still covered with *débris*, was with difficulty kept free from the encroaching jungle. This year, at a total cost of Rs. 2,584, the entire area was excavated to the extent of 10 feet from the plinth, and the open cells and chambers cleared. The plan of the palace as now revealed, shows that the main building ran north and south for a distance of over 200 feet and was flanked on either side by E-shaped wings. The bricks used were of the usual long, thin type, peculiar to the Ahom period and the walls were covered with plaster (Pl. XIII, *b*). Some specimens of old plaster-work ornamentation were discovered under the *débris* on the west face of the central block. They consist of four panels in low relief, showing horsemen, elephant riders, etc., fringed by floral pattern decorations. Steps are being taken to preserve this plaster work, but the heavy rainfall and humidity of the climate of Assam are factors unfavourable to the success of such protective measures.

SANKARPASHA.

The discovery of a hitherto unknown example of the Bengal style of Muslim Architecture is in itself of importance, and its interest is further increased when such is found beyond the usual limits of the style. SANKARPASHA, now a mere village, but at one time apparently a place of some importance, 8 miles to the south-west of the sub-divisional town of Habiganj in the Sylhet District of Assam, has the proud distinction of possessing a beautiful mosque of the time of Ala-ud-Din Husain Shah (early sixteenth century), but it has so far completely escaped

the attention of scholars. Muslim Inscriptions of an earlier period have been found in Shah Jalal's Dargah at Sylhet and at Hatkhola in the same District, but no authentic specimen of architecture of the period of the Independent Sultans was known to exist in Sylhet or, indeed, in the whole of the Trans-Meghna tract comprising the Surma Valley Division of Assam and the Chittagong Division of Bengal. This year the local people after having tried in vain to repair the mosque from funds collected by private subscriptions, requested Government to take over the monument for future maintenance, thus bringing it to the notice of the Archæological Department.

The mosque measures 31 feet 6 inches north to south and 41 feet 3 inches east to west. It consists of a prayer hall 21 feet 5 inches square and a verandah 5 feet 4 inches broad on the east. It is built of finely burnt brick, stone being used only for the sills of windows and doors. The main room is approached through three doorways on each side except the west and the verandah has, besides the three front doorways, two additional ones on the south and north sides (Pl. XIII, *a*). The plain surface of the façade has been admirably relieved at intervals by pilasters on the back walls, deep niches in the centre of the back wall and shallower tall niches over and between the doorways, and rather heavy minarets at the corners of the main room and the verandah. The *mihrab* and walls of the main room, the inner wall of the verandah and the façade are lavishly decorated with moulded bricks bearing various floral designs, the boldness and vigour of which has rarely been surpassed even in the well-known examples of Gaur (Pl. XIII, *c*). The main room had originally a dome supported on pendentives, but as it had fallen, probably during the last great earthquake of 1918, it has been replaced recently by a modern flat-arch roof with iron joists, supported on iron uprights. The original curved cornice of the façade of the main room is still traceable but has been replaced in the recent repairs by a straight cornice. The monument is locally attributed to Shah Majlis Amin, one of the fellow-saints of Shah Jalal, the Muslim patron-saint of Sylhet, who is believed to have lived in the fourteenth century A. D. The stone inscription fixed in the centre of the front wall, however, refers itself to the reign of Ala-ud-Din Husain Shah, probably the greatest of the Sultans of Bengal (1493-1518 A. D.) and its construction may, therefore, be assigned to the beginning of the sixteenth century A. D. In plan, it resembles the Lattan mosque at Gaur (Circa 1475 A. D.), but its elevation is more solid and imposing. In respect of surface decoration, the style is more natural and restrained than that of the Tantipara or Darasbari mosques (*Circa* 1475-80 A. D.). The Sankarpasha mosque, therefore, resembles more closely the examples of the reign of Yusuf Shah, a quarter of century earlier, than the better known examples of brick-built mosques of the reign of Husain Shah and his son Nasrat Shah, such as the Qadam Rasul and Bagha mosques. In the two latter, the Bengal style is already on its way towards decadence and formalism, while in the present example, one can still feel the spontaneity and vigour of the best period. It may, therefore, be considered as a welcome addition to our knowledge of the Bengali style of Muslim architecture, but it is regrettable that considerable

damage was done to its authentic character by the recent repairs carried out by the owners before the Archæological Department could exercise control. In the course of these unfortunate repairs the curved "bamboo-line" of the cornice has been tampered with, ugly finials placed over the top of the corner minarets, the roof completely modernized and the verandah ceiling covered with fresh plaster ornament and partly whitewashed.

Bamuni Hill.

The work of sorting out and arranging the scattered stones lying on the Bamuni Hill near Tezpur, to which reference has been made in the last year's Annual Report was completed, at a further expenditure of Rs. 1,478. The removal of the stones in the upper layer has now disclosed that there must have been at least four subsidiary shrines beside the principal shrine which was dedicated to the god Vishṇu. In the absence of definite indications, it is difficult to say whether the deities enshrined in the subsidiary temples were the four other principal deities of Brahmanism, *viz.*, Śiva, Gaṇeśa, the Sun-god and the Goddess Durgā, constituting the Pañch-Āyatana. Among the stones discovered, a slab of black basalt now preserved in the office of Sub-Divisional Officer at Tezpur deserves mention. It measures 3 feet 9 inches by 2 feet 6 inches and apparently forms part of the back slab of a huge group of images, of which part of the hand of a figure is preserved in this fragment. The decoration consists of a trefoil arch with lotus-leaf and scroll-work mouldings and schematic tracery, the whole work being attributable to the ninth or tenth century A. D. and of a type not found elsewhere in Assam. All other imported stones with figure decorations have been arranged about the plinths of the shrines and the less important architectural fragments kept by the side of the winding foot-path leading up to the hillock.

MADRAS PRESIDENCY AND COORG.

By Mr. A. H. Longhurst.

During the year under report the sum of Rs. 27,051-8-0 was spent on conservation in the Madras Presidency and Rs. 320 on works in Coorg.

At Jaugada in the Ganjam District, the Rock Edicts of Aśoka have been protected from possible defacement by the provision of iron bars in front of the inscribed surface and from the weather by the provision of a projecting roof. The usual annual repairs were carried out to the ancient Buddhist sites at Anakapalli and Ramatirtham in the Vizagapatam District.

Petty repairs amounting to Rs. 154 were executed to the group of buildings known as Bandar Fort, and the Dutch Cemetery at Masulipatam. The Buddhist remains at Ghantasala, Gudivada, Jaggayyapeta and Gummadidurru were maintained in good repair at a cost of Rs. 309-12-0. At Bezwada and Mogalrajapuram, the usual annual repairs were executed to the old Pallava Rock-cut Shrines situated in the neighbouring hills. In the Guntur District, repairs were undertaken to the Narasiṁha Temple at Vinukonda

Gopāla Temple at Ipuru, and the Buddhist Remains at Amarāvatī, amounting to Rs. 208-15-0.

At the Seven Pagodas in the Chingleput District steps have been taken to prevent the encroachment of drift sand around the basements of the monuments. When these temples were first taken over by this Department they were buried in drift sand several feet deep and unsightly trees and bushes disfigured the different sites. At the "Five Rathas" (Pl. XIV, *a-d*) a large area had to be cleared and a stone wall constructed on the east side to stop the drifting sand from silting up the enclosure. In the case of the great Śiva Temple erected on the fore-shore and known locally as the "Shore Temple," there has been the further problem of preventing the sea itself from washing away the foundations. To avert this catastrophe the breakwater constructed some years ago has been repaired and strengthened. Like the Five Rathas, the basement of the "Shore Temple" on the west side was buried in sand and no signs of the temple-yard in front were visible. The trees planted along the new roads are doing well and now provide shady avenues across the hot and sandy plain.

In the Tanjore Circle the most important works were the repair and maintenance of Gingee Fort in South Arcot District, which entailed an expenditure of Rs. 2,084. This historic fortress stands on three lofty hills connected by massive fortifications arranged in the form of a triangle, the triangular space enclosed being about three miles in perimeter and forming the lower fort, the three hills constituting the citadels. The most important buildings in this Fort are situated in the two citadels of Rājagiri and Kṛishṇagiri, respectively, and also in the lower fort at the foot of Rājagiri. They include a number of large granaries and tanks, pavilions, palaces, barracks, temples and mosques, the best of which, including the Arcot Gate, the Pondicherry Gate and the Royal Battery constructed by the French, have now been repaired.

Other noteworthy undertakings that have been brought to completion in this Circle, are the repairs to the old tombs in the Dutch Cemetary at Negapatam, the Danish Fortress at Tranquebar, and the Sivagangā Little Fort at Tanjore. A sum of Rs. 1,054 was spent in the Trichinopoly Circle on annual repairs and maintenance of watchmen.

Satisfactory progress continues to be made at Hampi Ruins in the Bellary District, and all the most important buildings are now in a good state of preservation and the roads are being well maintained. Two new water-carts were recently provided for this purpose at a cost of Rs. 201.

BURMA.

By Mons. Charles Duroiselle.

The conservation work undertaken in Burma during the year falls under two heads, namely (*a*) Special repairs and (*b*) Annual repairs. The former consisted in (*a*) the continuation of the special repairs to the Dhammayazika Pagoda at Pwasaw village, Pagan, at a cost of Rs. 2,931, (*b*) the extension of

the reinforced concrete roof on the eastern side of the Western Petleik Pagoda near Thiyipyitsaya village, Pagan, at a cost of Rs. 418, (*c*) the extension of special repairs to the Lawkananda Pagoda near Thiyipyitsaya village, Pagan, at a cost of Rs. 5,010, and (*d*) the execution of special repairs to the Thambhula and Nandamannya temples at Minnanthu, Pagan, at a cost of Rs. 6,954. The expenditure under this head totalled Rs. 18,810 including 23 per cent agency charges.

PWASAW.

The special repairs to the DHAMMAYAZIKA PAGODA at PWASAW village were begun in the year 1924-25. The work on the main shrine and that on the five subsidiary temples on the platform were completed in the year 1926-27, and those on the inner enclosure wall and the pavement in 1927-28. During the year under report the repairs to the outer enclosure wall were continued and completed and the entire work of conserving the Pagoda was brought to a conclusion at a total cost of Rs. 43,390. The monument is now in an excellent state of repairs, and is assured a long lease of life (Pl. XV, *a*).

THIYIPYITSAYA.

The western PETLEIK PAGODA near THIYIPYITSAYA village, Pagan, has its corridors and the outer face of the wall on the eastern side decorated with beautiful terracotta plaques illustrating the Buddhist birth stories. The plaques in the corridors are protected from rain and weather by the reinforced concrete roof built over the corridors, whereas the plaques on the outer face of the wall on the eastern side had been afforded protection by asbestos screens erected a few feet away from the wall. As these screens had become dilapidated and no longer served the purpose for which they had been originally intended, they were removed, and the reinforced concrete roof on the eastern side of the pagoda extended another five feet, in order to protect the plaques on the outer face of the wall on that side from rain and weather. This work was completed at a cost of Rs. 418, exclusive of the agency charges.

The abnormal rains that fell in Pagan in November 1926 damaged very severely the enclosure walls of the LAWKANANDA PAGODA which is built on the river bank, endangering thereby the safety of the main building. The east wall and a portion of the south, to which the damage done was not very extensive were repaired and the cost met out of the allotment for the maintenance of monuments at Pagan in the year 1926-27. But the west wall on the river side and that portion of the south wall on the same side together with the stone pitching underneath their foundations were very badly and extensively damaged by the flood necessitating a special repair estimate to provide for dismantling and rebuilding the greater portions of these walls and relaying the stone pitching. This estimate amounts to Rs. 8,426 against which a sum of Rs. 2,995 was spent out of the allotment for the maintenance of monuments at Pagan in the year 1927-28. A sum of Rs. 5,010 was also spent during the current year in carrying out the necessary earth work on the southern slope of the Pagoda, in relaying the stone pitching on that same side for protection against erosion, in dismantling

and rebuilding that portion of the south enclosure wall which had been badly cracked and in uprooting old trees growing near the walls on the slope of the river bank.

MINNANTHU.

The THAMBHULA and the NANDAMANNYA temples at MINNANTHU are of a type of buildings very common in Pagan, but they contain beautiful and interesting frescos which depict scenes evidencing the prevalence in Burma of Tantric Buddhism, a form of worship which has long been replaced by the present day form of Buddhism of the Theravāda school. These frescos are, therefore, considered of very great value, and with a view to preserving them special repairs were undertaken to the temples during the year under report. These consisted in making the roofs watertight, repairing the walls and replacing the missing stone flags in the floor of the buildings (Pl. XV, *b*, *c*).

MISCELLANEOUS ANNUAL REPAIRS.

A sum of Rs. 21,466 excluding agency charges, was spent on works carried out through the Public Works Department. Of this sum Rs. 750 were spent on petty repairs to the BUPAYA PAGODA at PAGAN and on stone masonry work in lime in connection with the repairs to the retaining wall on the river side of the same pagoda; Rs. 440 on petty repairs to walls and roofs of the KYAUKKU ONHMIN TEMPLE at NYAUNGOO which were damaged by the rains of 1928; Rs. 333 on executing the necessary repairs to the floor, and renewing the plaster on the wall of the corridor of the second storey of the THAFBYINNYU TEMPLE at PAGAN; Rs. 361 on levelling the compound between the inner and outer enclosure walls and making pathways at the DHAMMAYAZIKA PAGODA at PWASAW village, Pagan; Rs. 630 and Rs. 440, respectively on the eastern and western PETLEIK PAGODAS near THIYIPYITSAYA village, Pagan, in executing the necessary repairs to their roofs and making them watertight. The remainder of the sum, *viz.*, Rs. 18,504 was spent on executing petty repairs and in clearance [of jungle at the monuments at SHWEBO, SAGAING, MINGUN, AVA, AMARAPURA, KYAUKSE, PEGU, HMAWZA, SYRIAM and HAINGGYI (Negrais) Island.

RAJPUTANA AND CENTRAL INDIA.

By Mr. H. H. Khan.

During the year under report satisfactory conservation has been carried out at the monuments of Ajmer, Patan in the Jhalawar State and Amber and Toda Rai Singh in the Jaipur State in Rajputana and at Sanchi and Raisen in the Bhopal State, Doni in the Chhatarpur State and Nandu in the Dhar State in Central India.

AJMER.

In the British District of AJMER the annual repairs and maintenance of the eleven protected monuments have been carried out at a cost of Rs. 869 while the five marble BARADARIS of SHAH JAHAN on the ANASAGAR BUND have been main-

tained at a cost of Rs. 1,970. Special repairs of a very urgent nature at the Arhai-din-ka-Jhonpra mosque at Ajmer, built by Altamash, have also been executed at a cost of Rs. 3,244. The work consisted in the repair of the damaged portion of the south porch of the mosque, which was in a dangerous condition and the paving of the damaged floor to drain off rain water outside the mosque. The carved fragments and sculptures belonging to the earlier temples recovered in the course of conservation in the mosque enclosure have been collected and arranged pending their removal to the Ajmer Museum.

Jhalawar State.

The conservation of the group of old temples situated on the site of the old city of Chandrāvati on the bank of a small stream known as the Chandrabhaga and close to the present town of Jhalrapatan, have been completely repaired; to meet this expenditure the Jhalawar Darbar received a grant-in-aid of Rs. 2,000 from the Central Government. The most interesting temple in the town of Jhalawar is the living Vaishnava shrine called the Sat Saheli, which resembles the Khajurao temples both in design and ornamentation. Unfortunately many additions of later date have been made to it, which have marred its original beauty. It is, therefore, hoped that the Durbar will soon take necessary steps to restore this important monument as far as possible to its original condition. The attention of the Jhalawar Darbar has been drawn to the urgent need of suitable conservation measures to the Buddhist caves and stupas at Kolvi, a small village in the Dag Tahsil.

Jaipur State.

In the Dilaram Bagh at Amber the old garden with its fountains, water channels, flower beds, etc., has been thoroughly cleared of *débris* and largely restored to its original condition. The *Baradaris,* octagonal pavilions and stone railings of the compound of the garden have also received attention. The Dilaram Bagh as it now stands in the midst of green lawns with water playing in the fountains recalls once more its pristine beauty. Besides a partial restoration work of the mirrored ceiling of the Dewan-i-Khas in the Ajmer Palace, some petty repairs to a few old temples at Amber itself have also been carried out. Amidst these temples stands an interesting mosque, of the Moghal period, which is about a hundred feet square and similar in design and decoration to those at Delhi, but finished throughout in plaster.

Five of the numerous old stepped wells situated near and around the village of Toda Rai Singh have been cleared of *débris* and vegetation, and thoroughly repaired. The citadel of Toda Rai Singh which stands at a distance of about seventy-five miles from Jaipur is interesting not only on account of its situation but by reason of its fine buildings, such as the Dewan-i-Khas and Dewan-i-Am, its well laid gardens and its inner and outer courts with marble gates. It is, perhaps, next to Amber in point of archæological interest. Several buildings in the palace have recently been cleared of *débris* and vegetation and the whole site has been made convenient for inspection.

UDAIPUR STATE.

In CHITORGARH, the most renowned fort in India, several most valuable monuments are in need of urgent repairs, particularly the *Jaya-stambha* ('Tower of Victory'). It is to be regretted that proper measures to ensure the stability of this important monument have not yet been undertaken, as recommended by the Director General of Archæology.

CHHATARPUR STATE.

In the CHHATARPUR STATE the group of three Chandeli temples at DONI have been thoroughly conserved and to meet the cost of these repairs a grant-in-aid of Rs. 5,000 was made by the Government of India during the year.

BHOPAL STATE.

The annual maintenance and upkeep of the Buddhist monuments at SĀÑCHĪ in the BHOPAL STATE has received the most careful attention of the State authorities. The walls of the Nagi temple, which are made of rubble are, however, showing signs of bulging, for which some steps will be necessary in the near future.

It is gratifying to be able to report that the clearance of jungle and *débris* at the RAISEN FORT, an old site in the Bhopal State, is in progress and the conservation of the main monuments is contemplated.

DHAR STATE.

Conservation of the monuments at MANDU has been in hand for nearly twenty years and the various works have been carried out there at the expense of the Dhar State and the Government of India. During the year under review a supplementary grant-in-aid of Rs. 5,000 was allotted to the Dhar State by the Central Government and conservation work has been carried out satisfactorily by the State Engineer and the Archæological Supervisor. Besides the annual repairs and maintenance of the archæological buildings at Mandu special repairs have been undertaken at HOSHANG'S TOMB, JAHAZ MAHAL, TARAPUR GATE, JAMI 'MASJID and NILKANTH, while *débris* on an extensive scale has been cleared from the HINDOLAMAHAL, ZENANA PASSAGE to DILAWAR KHAN'S MOSQUE, east and north of DARYA KHAN'S TOMB, DAIKA MAHAL and DAIKA CHOTI BAHENKA MAHAL.

At HOSHANG'S TOMB marble lintels have been restored and the dilapidated graves within the court thoroughly repaired. The undermined foundations of the reservoir adjoining the Jahaz Mahal on its south side have been underpinned and *débris* removed from the front. The recessed jointing of TARAPUR GATE has been completed and the site round about the Gate cleared of *débris*. The repair to the coping stones of the plinth in the inner court of the JAMI 'MASJID is in progress. The work of building up an enormous retaining wall on the north of the NILKANTH TEMPLE, which was in progress last year, has been finished, and the pavement of the lower terrace has been completely restored. The fallen wall east of the big flight of steps giving access to the monument has been

restored and the retaining wall on the east, which was broken by huge boulders fallen from the cliff above, has been rebuilt. Last year in addition to the grant-in-aid for conservation works, an extra grant of Rs. 2,000 was also sanctioned by the Government of India for the survey of monuments at Mandu, which has since been taken in hand. Measured drawings of the Jahaz Mahal, Hindola Mahal and Baz Bahadur's Palace have been prepared and those of Jami 'Masjid, Hoshang's tomb, Darya Khan's tomb and Dilawar Khan's mosque are now being made. The total expenditure on the conservation works, etc., during the year amounted to Rs. 13,635-12-10 of which Rs. 6,014-2-0 have been spent from the Imperial grant-in-aid and Rs. 7,621-10-1 have been spent from the Dhar State funds. Of the Imperial grant an amount of Rs. 1,312-11-3 has been spent on survey of ancient monuments and the rest on conservation.

Datia.

The Datia Durbar has been seriously considering the problem of conserving the old palace at Datia built by Bir Singh Dev, the Bundela Chief and which was damaged by lightning in 1925. An estimate amounting to Rs. 20,000 based on the conservation note supplied by the Archæological Department has already been framed by the Durbar and submitted to the Director General of Archæology with a view to obtaining a grant-in-aid from the Government of India.

SECTION II.—EXPLORATION AND RESEARCH.

EXCAVATION AT TAXILA.

By Sir John Marshall.

DURING the field season of 1928-29 excavation work at Taxila was confined to the city of SIRKAP, where certain tasks still remain to be done before my projected volumes on this historic site can be published. One of these tasks is the clearance of certain blocks of buildings in the Parthian city which intervene between the areas already excavated, so as to fill up existing gaps in the plans and as far as possible round off the work in this area ; a second task is to examine more systematically than has hitherto been practicable the several strata of earlier remains that lie buried beneath the Parthian level. With both of these tasks substantial progress has been made, but more with the former than with the latter, since for various reasons the former was the more pressing of the two.

With the exception of the Palace block (*P*) all the remains cleared this season are situated on the west side of the High Street. From north to south they are comprised in blocks A′, B′, D′, E′, F′, G′ and H′, and represent over thirty houses in all, covering an area of some 2½ acres (Pl. XVII, *a*, *b*). Little more, however, than the foundations of any of these houses has survived, and inasmuch as they generally resemble the houses excavated in previous years, without any extraordinary features, I shall only pause to notice some of the minor antiquities unearthed in them. The most interesting of these are as follows :—

Block 3 A.

(1) Narrow-necked earthen flask with 7 small holes in base. Probably a scent sprinkler. Ht. 2⅝″. From House I, room 7. Sk. 288. Sq. 21·90′ ; 5′ 6″ b. s. The remains of House I, where this object was found, belong to the third stratum and are referable to the 1st century B. C. The other houses in this block are of later date.

(2) Iron anvil, square in section. Similar to Sk. 264. Ht. 3¼″. From House I, room 14, higher level. Sk. 40. Sq. 21·93′ ; 2′ 0″ b. s. Probably late Parthian date.

(3) Ivory hair comb decorated with incised busts of a male and female on one side and a duck on the other. Teeth missing. Width 1-13/16″. From House II, room 29, Sk. 194. Sq. 23·93′ ; 4′ 10″ b. s. (Pl. XXI, 13 and 14).

(4) Iron *hāṇḍī* for cooking, made in 2 sections, the upper rivetted to the lower. Slightly damaged. Ht. 8″. From House III, room 13. Sk. 104. Sq. 27·90′ ; 3′ 1″ b. s.

(5) Copper medallion *repoussé*. Within wreath, a female (?) bust with right hand raised holding flower. Wears tunic fastened with pin (?) on left shoulder. The technique is rough, but the design is typically Graeco-Roman. Diam.

22-5/16/16″. From House III, room 24. Sk. 131. Sq. 25·90′; 4′ b. s. (Pl. XXI, 12).

(6) Copper sheet of irregular shape ornamented with foliate design *repoussé*. The design is more like Gupta than 1st century work. Size $4\frac{1}{8}$″ × $3\frac{5}{8}$″. From House IV, room 38. Sk. 132. Sq. 27·92′; 3′ 6″ b. s. (Pl. XXI, 15).

(7) Iron anvil, square in section. Ht. $3\frac{1}{4}$″. From House IV, room 38. Sk. 264. Sq. 26·93′; 5′ 1″ b. s.

A deep trench was opened in Third Street, which separates Blocks A′ and B′, and a heap of potsherds was found here, which evidently appertains to the Third stratum. In squares 26-28 × 93′-96′ also another trench was sunk to a depth of 15 feet and protracted southward in the rear of Block B′. It disclosed a great mass of ponderous building stones, such as are commonly used in the large diaper masonry of early Kushān date, and it seems probable that these stones constituted the foundation of some large Kushān edifice, which, like that of the Apsidal Temple, was carried down through the Parthian and earlier strata below. The sinking of such deep foundations and the disturbance of the ground which it involved explain how relatively late coins and other small objects are sometimes found in the earlier levels. In this particular excavation, for example, 1 coin of Azes I, 2 of Azes II and I of Kadphises were found at a depth of between 12 and 14 feet below the surface, and 1 coin of Hermaios was found at a depth of 15 feet. Of the other coins found in this and other blocks a tabulated list, with descriptions of the rarer issues, will be found at the end of this article.

Block B′.

In this block, apart from the deep trench alluded to above, only one line of 4 rooms had to be cleared, namely in House VII. To the west of them a brick-lined drain was found running north to south at the floor level, and in one of the rooms (140) was a mass of potsherds mixed with ashes. Among other small objects were the following:—

(8) Miniature casket of slate containing rouge. Ht. $\frac{3}{4}$″. House VII, room 140. Sk. 567. Sq. 33·92′; 5′ 11″ b. s.

(9) Carpenter's adze of iron with part of handle socket. Length $5\frac{1}{4}$″. House VII, room 141. Sk. 575. Sq. 34·92′; 5′ 9″ b. s.

(10) Plaque of schist stone divided into three compartments. In the upper register are two draped figures holding wine cups. All three compartments are relieved with a lotus pattern in circular border. Diam. $3\frac{5}{8}$″. House VII, room 141, Sk. 635. Sq. 34·92′; 8′ 9″ b. s. (Pl. XX, 1).

(11) 4 fragments of potsherds, with ochreous yellow glaze on both sides. These carry back the history of glazing in India to scytho-Parthian times. The stratum to which these fragments belong is the 4th or 5th. The glaze on the outer side is "crackled"; on the inner side not. Length $\frac{7}{8}$″ to $1\frac{5}{8}$″. Sk. 617. Sq. 30·94′; 11′ 11″ b. s.

Block D′.

The area excavated in Block D′ comprises seven houses (IX-XV). Before they could be excavated a big mound of spoil earth thrown up from previous

diggings had to be removed. Houses X, XI, XIII, XIV and XV, which flank Sixth Street, are fairly complete as regards their plans; the others, which flank Fifth Street, are very fragmentary. The minor antiquities included:—

(12) Tooth of an elephant. Length 8″. From House IX, room 142. Sk. 1073. Sq. 55·95′; 1′ 6″ b. s.

(13) Vase-like inkpot of copper. Traces of iron in handle rings on rim, the handle having apparently been of that metal. Inside, remains of black ink. Ht. 2⅞″. House IX, room 142. Sk. 1071. Sq. 55·95′; 1′ 6″ b. s. (Pl. XXII, 4).

(14) Copper pin with indented bands. Length 4⅜″. House X, room 164. Sk. 1279. Sq. 63·96′; 2′ b. s.

(15) Casket of grey schist with lotus and other designs engraved in low relief round its body. The knob on the top of the cover, which is broken, was made in a separate piece and affixed with cement. Ht. 3⅛″. House X, room 164. Sk. 1307 *a*. Sq. 63·96′; 3′ 6″ b. s. (Pl. XXII, 1).

(16) Copper inkpot with serpentine handle similar to Sk. 1307*c*. and containing a deposit of black ink. Diam. 2⅞″. House X, room 164. Sk. 1307 *b*. Sq. 63·96′; 3′ 6″ b. s.

(17) Copper inkpot with usual serpentine handle. From constant use the bottom has been worn away at the centre and a false bottom is fitted beneath it. The top is made as a separate piece and rivetted inside the neck of the inkpot. In the centre of the top is soldered a small tube for the pen. Diam. 5″. House X, room 164. Sk. 1307*c*. Sq. 63·96′; 3′ 6″ b. s.

(18) Copper spoon. Length 4¾″. House X, room 164. Sk. 1307*d*. Sq. 63·96′; 3′ 6″ b. s.

(19) Copper basin with ring base (detached) and ring handle damaged. Diam. 14½″. House X, room 164. Sk. 1307*i*. Sq. 63·96′; 3′ 6″ b. s.

(20) About 5 lbs. of vermilion pigment, probably rouge. House X, room 164. Sk. 1307 *v*. Sq. 63·96′; 3′ 6″ b. s.

(21) Iron cart. 3 wheels damaged and one missing. Similar carts have previously been discovered in Sirkap. (Cf. Sk. 20-110) 21″×21″×5″. House X, room 164. Sk. 1339. Sq. 62·96′; 4′ b. s.

(22) Grinding stool of spotted red (Muttra) sandstone, broken in three pieces. The upper surface is adorned at one end with two rosettes; the front and sides incised in low relief with fish, *triratna*, lotus and other floral designs. Two of the legs and part of the body of stool are missing. Length 13½″. House XI, room 175. Sk. 1140 and 1222. Sq. 65·97′; 1′ 6″ and 3′ b. s.

(23) Inkpot of earthen-ware on high base; side lugs missing. Obviously copied from metal prototype. Ht. 2¼″. House XI, room 175. Sk. 1215. Sq. 65·97′; 2′ 6″ b. s.

(24) Standing female figure in round, of pale grey stone. Wears sleeved tunic or mantle falling over back and leaving front of body bare except for bodice covering breast; also necklace, bangles, zone and anklets. Holds a box in two hands. Long plaited hair falls over tunic at the back. Head, which was

fixed to neck by tenon and socket, is missing. Right foot damaged. Ht. $4\frac{1}{8}$". House XIII, court 193. Sk. 1163. Sq. 63·100′; 2′ 6″ b. s. (Pl. XIX, 2).

(25) Square seal of copper, probably the bezel of a finger ring. On front, indistinct traces of engraving; on back, two pairs of tiny rings for attachment. 9/16″×9/16″. House XIII, room 197. Sk. 1274. Sq. 65·101′; 3′ b. s.

(26) 105 iron ingots. Hexagonal in section and tapering to either end. The ingots weigh between 62 and 165 tolas each. Size $4\frac{3}{4}$" to $6\frac{1}{2}$"×$1\frac{3}{4}$" to $2\frac{1}{2}$". House XIV, room 223. Sk. 1141. Sq. 62·104′; 5′ 6″ b. s.

(27) Copper bowl. Diam. $7\frac{3}{8}$". House XIV, room 218. Sk. 1227. Sq. 61·103′; 2′ b. s.

(28) Circular casket of grey schist of *pyxis* shape, knob of lid broken. Bands of concentric fluting on lid. Band of lotus leaves around base. Ht. 2″. House XIV, rooms 226 and 227. Sk. 1086 and 1136. Sq. 62·105′ and 61·106′; 5′ b. s. (Pl. XXII, 2).

(29) Stupa-shaped relic casket of grey schist containing a clay sealing. Bead and reel design around dome. The crowning umbrella is missing. The design on the sealing is uncertain. Ht. $2\frac{3}{4}$". House XV, room 234. Sk. 1097. Sq. 64·104′; 3′ b. s.

(30) Grey and white granite mortar with traces of red pigment inside (Cf. Sk. 1307). Diam. $11\frac{1}{4}$". House XV, room 236. Sk. 1126. Sq. 66·104′; 3′ b. s.

(31) Copper hook with handle. Purpose unknown. Several such objects have been found previously. Length $6\frac{7}{16}$". House XV, room 234. Sk. 1122. Sq. 64·104′; 3′ b. s.

(32) Bell-shaped copper cooking pot similar to Sk. 725*e*, but with spout The spout is rivetted on. Damaged in places. Ht. 14″. House XV, room 237. Sk. 1038. Sq. 63·105′; 5′ b. s.

(33) Solid ball of copper with 4 small rings around body. Diam. $\frac{5}{8}$". House XV, west of room 237. Sk. 821. Sq. 63·106′; 4′ b. s.

Block E′.

In Block E′, which lies between Sixth and Seventh Streets, the remains unearthed extended from squares 91′ East to 105′ West and comprised six houses more or less complete as to their foundations, and portions of three others which had already been partially cleared in previous seasons (Nos. XIII to XXI). Among the minor antiquities were the following.:—

(34) Square stamping die of terracotta with simple floral design. Handle at back pierced with hole for suspension and incised on top with crude human figure. $1\frac{3}{8}$" square. House XIII, room 186. Sk. 796. Sq. 79·93′; 5′ b. s.

(35) Globular casket of grey schist decorated with 5 lotuses in concentric circles. The lid belonging to the casket was missing, its place being taken by a larger lid belonging to another vase. In the casket were found:—

(*a*) 2 copper coins of Kadphises and 1 of Azes I,

(*b*) 5 fragments of gold ornaments,

(*c*) 6 pieces of gold or gold and silver amalgam,

(*d*) 4 fragments of silver ornaments, and

(*e*) 3 pieces of copper objects.

Diam. of casket $2\frac{1}{8}''$. Diam. of lid $2\frac{7}{8}''$. House XV, room 206. Sk. 984. Sq. 73·96′; 3′ 9″ b. s.

(36) Square seal of copper engraved on face with a standing humped bull; on back, small ring for attachment to cord. 7/16″ square. House XVI, room 216. Sk. 951. Sq. 80·96′; 3′ 2″ b. s.

(37) Fragments of yellow glazed pottery with some irregular hatching in black glaze on surface. Glazed on one side only, unlike the fragment found 7 feet lower, in 30·94′ (Sk. 617). Length $1\frac{3}{8}''$. House XVI, room 216. Sk. 759. Sq. 79·95′; 4′ b. s.

(38) Earthen-ware cup. Rim decorated with linear design in black paint. Diam. $5\frac{7}{8}''$. House XVII, room 227. Sk. 1019. Sq. 71·98′; 4′ 3″ b. s.

(39) Vase-shaped casket of schist stone, with open mouth in lid. Body decorated with incised bands. Ht. $4\frac{3}{4}''$. House XVII, room 227. Sk. 1042. Sq. 71·98′; 3′ b. s. (Pl. XXII, 7).

(40) Vase of schist stone decorated with three horizontal bands of petals within incised lines; one below neck, one below shoulder and one round base. Ht. $5\frac{1}{2}''$. House XVII, room 234. Sk. 715. Sq. 73·100′; 1′ 6″ b. s. (Pl. XXII, 8).

(41) Flat spoon of copper. Length $8\frac{1}{16}''$. House XVIII, room 246. Sk. 803. Sq. 74·100′; 4′ b. s.

(42) Greenish soapstone plaque with a draped female figure holding child in left hand and riding on a hippocamp. Below, in exergue, acanthus leaf in low relief. Both sides of rim decorated with incised concentric circles. Inscription of 5 letters in Kharoshṭhī on its back:—*Maṁjuminasa*, *i.e.*, 'of Maṁjumina'—probably the name of the person to whom the object belonged. Diam. $3\frac{1}{8}''$. House XVIII, room 240. Sk. 763. Sq. 74·89′; 4′ b. s. (Pl. XX, 10).

(43) Bronze finger ring; bezel engraved with a standing female figure wearing loose drapery which leaves upper part of body and legs from knees downwards bare. Right hand grasps uncertain object (? bird). Diam. 11/16″. House XX, room 270. Sk. 945. Sq. 70·101′; 6′ 6″ b. s. (Pl. XX, 3).

(44) Square iron anvil with sharp legs probably for fixing in wooden block. $2\frac{5}{8}''$ square. House XX, room 270. Sk. 947. Sq. 70·101′; 6′ 6″ b. s.

(45) Inkpot of earthen-ware. Side lugs and stopper missing. Ht. $1\frac{3}{8}''$. House XX, room 270. Sk. 1058. Sq. 70·102′; 5′ 6″ b. s.

(46) Circular copper mirror with a short tang for fixing in handle. The back is slightly raised in centre and at edge. Diam. $5\frac{1}{8}''$. House XX, room 272. Sk. 725*c*. Sq. 72·101′; 4′ b. s.

(47) Bell-shaped copper cooking pot made in two sections and rivetted together. A patch on the bottom has been rivetted on. Traces of burning beneath. Ht. $8\frac{1}{2}''$. House XX, room 272. Sk. 725*e*. Sq. 72·101′; 4′ b. s.

Block F'.

In the newly excavated area of Block F', a building (VII, VIII and IX) with an unusually spacious court has been brought to light on the south side of the plot, flanking Eighth Street, but there still remains some more digging to be done on the west before its plan is complete. On the northern side of this Block, towards Seventh Street are four moderate-sized houses, two (V and VI) on one side of a narrow lane running North and South, and two (X and XI) on the other side of it. The plan of all four houses are tolerably complete. Besides them, the remainder of House IV, part of which had previously been cleared, was excavated but found to be in a very dilapidated state. Among the minor antiquities recovered in these five houses were :—

(48) Copper spoon with rat-tail handle, part of which is missing. Length $4\frac{1}{16}''$. House IV. Sk. 1795. Sq. 83·86'; 3' b. s.

(49) Circular copper mirror with a tang for the handle. Diam. $2\frac{3}{16}''$. House IV. Sk. 1941. Sq. 84·84'; 4' 4" b. s.

(50) Vine leaf of copper with a hole for fixing. Length $1\frac{3}{8}''$. House IV, room 120. Sk. 1627. Sq. 87·82'; 6" b. s.

(51) Copper inkpot with serpentine handle, similar to Sk. 1307*c*. Diam. $2\frac{1}{2}''$. House IV. Sk. 1612. Sq. 84·84'; 4' 8" b. s.

(52) Copper spoon with goose-headed terminal of handle. Length $7\frac{1}{16}''$. House IV. Sk. 1480. Sq. 86·85'; 2' b. s. (Pl. XXII, 5).

(53) Bone handle with relief of standing female figure carved on it; feet missing (Pl. XIX, 3). The workmanship is superior to No. 2483 (Pl. XIX, 4). Length $5\frac{1}{4}''$. House V, room 128. Sk. 1777. Sq. 85·89'; 4' b. s.

(54) 18 iron or steel plates corroded and adhering together, with three links of an iron chain. Probably plates of armour. The plates are curved, as if to fit the body of a man or horse, and are of different patterns; some of their edges are straight, others curvilinear, and some provided with hinges, or pierced with small holes for attachment. Size about $10'' \times 8\frac{1}{2}''$. House V, room 128. Sk. 1782. Sq. 85·89'; 4' b. s.

(55) Plaque of greenish grey soapstone. Diam. $6\frac{5}{8}''$. Rim relieved with lightly incised half-lotus design; relief within depicts a drinking scene. Above, in centre, man and woman seated on bench, the former clasping his companion with his left hand and holding sceptre with right, while she offers him a cup of wine. To left of them, a woman seated and draped, playing on a lyre, and behind her a youth playing on the pan-pipes (?); to right, a standing figure with right hand wrapped in mantle and left holding staff. In lower register, to right, a large wine vat (?) rising from acanthus leaves in which two men, one on the back of the other, appear to be treading the grapes, while a third, in the centre of the plaque, draws off the juice in a tall flagon. To the left, another man bearing a wine skin on his back is pouring the wine into a *kratēr*, while his companion on the left of the vase is raising a bowl to his lips. Below, against the rim of the plaque, two figures are lying drunk. The back of the plaque is relieved with concentric bands both incised and in relief. House V, room 128. Sk. 1776. Sq. 85·89'; 4' b. s. (Pl. XIX, 1).

(56) Half of a soapstone plaque divided into two registers. In the upper a man kissing a woman; the former lying on couch, the latter seated on stool by his side. Rim relieved with 4 concentric circles. Two small holes drilled near centre and in rim appear to have served for rivets, when the plaque was mended in old days. Inscription in Kharoshṭhī on the back reads:—(along the edge): *Thireasa tritavi(na) mudrao Uraśe Arya—Ro......*; (in the middle): *Thiraka.* Diam. $4\frac{1}{8}''$. House V, room 128. Sk. 1486. Sq. 85·90′; 2′ 9″ b. s. (Pl. XX, 11.)

(57) Flesh rubber of terracotta, furnished with a ring handle at the back. $3\frac{5}{8}'' \times 3\frac{3}{4}''$. House V, room 124. Sk. 1662. Sq. 84·88′; 4′ 2″ b. s.

(58) Copper hairpin with heart-shaped head. Length $3\frac{15}{16}''$. X, room 181. Sk. 2154. Sq. 82·93′; 5′ 9″ b. s.

(59) Oval copper seal, probably bezel of finger ring. On back, four marks of ring attachments. On face, in centre, star with smaller star on either side. Above and beneath, two lines of lettering, (*a*) one in Kharoshṭhī, (*b*) the other in early Brāhmī. The inscriptions read as follows:—(*a*) *Sihasa (madri)na putrasa Virabahusa*, (*b*) *Sihasa madrina putrasa Vīrabāhusa*, *i.e.*, 'of Vīrabāhu, the son of Siṁha, the minister.' Length 1″. House X, room 186. Sk. 1577. Sq. 87·91′; 1′ 6″ b. s. (Pl. XX, 2.)

In House IV, were also found a small hoard of 177 coins comprising 4 of Hermaios with Kadphises, 161 of Kadphises (bust of Hermaios and Herakles type), 8 of the same ruler (Bull and Camel type), 3 of Azes II, and 1 of Gondophares.

Of the antiquities found in the larger building (VII, VIII and IX) to the South, the following deserve notice:—

(60) Soapstone plaque divided into nine sunk compartments. In centre, busts of male and female figures with wine cups in their hands. Both wear necklaces. In each of the four corner compartments is a rosette. The rim is decorated with cross hatchings, and the back incised with lotus design. Diam, $5\frac{1}{8}''$. Building VII (with VIII and IX), room 145. Sk. 2159. Sq. 90·84′; 5′ 5″ b. s. (Pl. XX, 6.)

(61) Iron tripod ring for cooking. Diam. of ring $10\frac{3}{4}''$. VII, room 145. Sk. 2335. Sq. 90·83′; 5′ 11″ b. s.

(62) A group of the following iron implements (*a*) 1 axe. Length $5\frac{1}{8}''$, (*b*) 3 adze heads. Length $4\frac{1}{2}''$ to $6\frac{1}{2}''$, (*c*) 9 hammers. Length $2\frac{1}{8}''$ to $3\frac{7}{8}''$, (*d*) 2 chisels. Length $5\frac{1}{2}''$ and $6\frac{1}{8}''$, (*e*) 1 ring. Diam. $1\frac{1}{4}''$. VII, room 144. Sk. 2404. Sq. 92·82′; 5′ 3″ b. s.

(63) Bone handle with the figure of a woman carved in relief on one side. The woman is wearing ear ornaments, necklace, girdle and anklets. Length $6\frac{5}{16}''$. VII, room 144. Sk. 2483. Sq. 91·82′; 4′ 11″ b. s. (Pl. XIX, 4.)

(64) Finger ring of copper. Engraved on bezel is a standing male figure holding club in right hand and (?) trident in left. Beneath, three letters illegible. Much corroded. Diam. $\frac{5}{8}''$. VIII, court 166. Sk. 2095. Sq. 94·87′; 4′ b. s.

(65) Standard cup of copper on square base. Ht. $2\frac{3}{4}''$. IX. Sk. 2348. Sq. 99·84′; 5′ 3″ b. s. (Pl. XXII, 3.)

(65*a*) Rectangular object of white marble curved at one end, broken at other, with transverse hole through middle and pierced with three iron nails. Length $3\frac{1}{8}''$. Sk. 1461. Spoil earth (Pl. XX, 4).

Block G′.

Of the buildings brought to light in Block G′ House No. I has an exceptionally clear and fairly well preserved plan. The main building consists of a square court with chambers on all four sides and with a group of subsidiary rooms on its east. On its north side is a spacious open court, and on its south a complex of yards and outhouses of very irregular shape, probably intended for menials and cattle. In room 39 of the main structure (I) were found a lead coin of Strato I (Sk. 1982) and with it :—

(66) Iron head of instrument, hexagonal in section—possibly a hammer. Length $7\frac{5}{8}''$. Sk. 1976. Sq. 106·79′; 3′ 2″ b. s.

(67) Miniature female head of terracotta, wearing prominent ear ornaments, and fillet band over curly hair. In good Hellenistic style. Ht. $1\frac{3}{8}''$. Sk. 1977. Sq. 107·78′; 3′ b. s.

In the out-houses to the South (No. II) :—

(68) Part of terracotta toy cart with two holes in front for shafts. Length 2″. Room 91. Sk. 1913. Sq. 114·79′; 4′ 6″ b. s.

(69) Terracotta bust of (?) androgynous figure. The breasts are prominent, like those of a woman, but the head is bearded and there are traces of a moustache painted in black pigment. Nose damaged; upper portion of head, left eye and ear missing. Crude workmanship; coarse clay with red slip. Ht. $4\frac{1}{2}''$. Room 99. Sk. 2054. Sq. 114·81′; 5′ 4″ b. s.

The other and more fragmentary buildings in the same block to the west of House I yielded :—

(70) Forefront of miniature cart of copper, similar to one previously found at Sirkap (171 of 1920-21). Length $2\frac{1}{4}''$. House III, east of room 106. Sk. 2338. Sq. 102·83′; 4′ b. s.

(71) Two round silver dishes with raised boss in centre, terminating in knob and surrounded respectively by eight and six incised concentric circles. One dish fragmentary; the other slightly damaged in three places. Similar dishes of silver and copper have been found at Taxila (Cf. Sk. 26-4081/21 and Sk. 19-927). A coin of Zeionises was found with these two dishes (Cf. *P. M. Catalogue*, XVI, 82). Diam. $12\frac{1}{2}''$ and $12\frac{3}{4}''$. Weight of complete dish $94\frac{1}{2}$ tolas. House III, room 110. Sk. 2068. Sq. 101·86′; 6′ b. s. (Pl. XXII, 6.)

(72) Tubular gold ornament. Length $\frac{3}{8}''$. House III, room 116. Sk. 1847. Sq. 104·87′; 2′ b. s.

(73) Copper bowl with circular base. Damaged. Diam. $8\frac{5}{8}''$. House IV, room 130. Sk. 1975. Sq. 106-86′; 2′5″ b. s.

(74) Globular casket of grey schist; body and lid adorned with rosettes within concentric bands. Original lid missing and replaced by one of larger dimensions. Diam. $1\frac{7}{8}''$. House IV, room 131. Sk. 2041. Sq. 107·87′; 3′ 6″

b. s. (Pl. XX, 9.)

(75) (*a*) 6 pieces of narrow gold necklace. Each piece of thin gold, hollow within. Pierced with two transverse holes for threading. Width $\frac{3}{8}$″.

(*b*) 4 hollow round beads of gold. Diam. $\frac{1}{4}$″. House V, room 142, Sk. 1916. Sq. 114·87′; 3′ 2″ b. s.

(76) Bell-shaped flat pendant of gold, hanging on tubular ring. Under rim of bell relieved with beaded border. Ht. $\frac{11}{16}$″. House V, room 142. Sk. 1917. Sq. 114·87 ; 3′ 2″ b. s.

(77) Circular casket lid (?) of grey schist, Diam. $5\frac{1}{16}$″, with semi-circular hole in exergue. In the upper register, a figure reclining on couch, holding cup in left hand. To right, standing figure holding cup in left hand ; to left, another figure with fan. All the figures are draped. Crude workmanship. House V, room 147. Sk. 2530. Sq. 115·91′; 1′ 4″ b. s. (Pl. XX, 12.)

Block H′.

From Block H′, where a narrow strip on the north and east sides was cleared, there are only two small objects to be noticed, *viz.* :—

(78) Small earthen vase perforated above shoulder with two rows of holes. Ht. 3″. House I, room 11. Sk. 2356. Sq. 123·74′; 6′ 6″ b. s.

(79) Copper hair pin with flat crescentic head. Length $4\frac{1}{2}$″. House I, room 20. Sk. 2408. Sq. 120·77′; 11′ 3″ b. s.

Palace Block (P).

On the further side of the High Street excavations were continued in the Palace area for the purpose of ascertaining the limits of the Palace towards the east. These excavations revealed the existence of an open rectangle, measuring some 120 ft. East and West by 140 ft. North and South, which was flanked by 3 or 4 houses on its northern side and other buildings, up to the present only partially excavated, on its eastern. As this area is devoid of any remains of the Parthian period, it may be inferred that at that time it was an open square or court, probably outside the boundary of the Palace proper, though it is possible of course that the houses that encompassed the square on its north and east sides were occupied by palace officials or retainers.

Of the houses on the north side of the square, three are of small dimensions and irregularly planned; the fourth (P. 2), which is separated from them by a narrow lane, contains a court and nine fair-sized rooms on the ground floor and is of very solid construction. No small antiquities of any value were found in this house, but from the neighbouring block on the west came :—

(80) A terracotta rattle in the form of a ram. Height $2\frac{3}{4}$″. House I, room 5. Sk. 2527. Sq. 155·44′ ; 2′ 6″ b. s.

(81) A miniature terracotta vase (ht. $3\frac{3}{8}$″) with red wash on shoulder and rim, containing the following objects :—(*a*) Flower-shaped pendant of gold, height $2\frac{5}{8}$″. It is composed of six petals, backed by granulated ribbings and

six smaller heart-shaped petals at their base, once inlaid with paste or jewels. Attached to the tips of the larger leaves is a ring with granulated edge, from which six chains were suspended with bells at their ends. One of these is now missing. The chains are quadruple plaits (Pl. XXI, 10). (*b*) 1 pair of gold earnings, bound with gold wire round the pointed ends. Diam. $\frac{9}{16}''$ (Pl. XXI, 3). (*c*) Finger ring of thin sheet gold; oval bezel; gem missing. Diam. $\frac{3}{4}''$ (Pl. XXI, 8). (*d*) Finger ring of gold composed of narrow band surmounted by row of five rosettes alternating with diamond-shaped cloisons. The latter are inlaid with a whitish stone. The inlay in the petals of the rosettes, which was possibly of turquoise paste, has perished. Diam. $\frac{3}{4}''$ (Pl. XXI, 2). (*e*) 116 pieces of narrow gold necklace, each piece of thin gold, hollow within and pierced with two transverse holes for threading. Width $\frac{9}{16}''$ (Pl. XXI, 1). (*f*) 44 hollow globular beads of gold. Diam. $\frac{1}{8}''$ to $\frac{3}{16}''$ (Pl. XXI, 4). (*g*) One hemispherical lump of gold cast in crucible; weight $12\frac{5}{16}$ *tolas* (Pl. XXI, 11). (*h*) Part of a hemispherical lump of silver cast in crucible; weight $5\frac{3}{16}$ *tolas* (Pl. XXI, 6). (*i*) Oval-shaped flat piece of gold; weight $\frac{9}{16}$ *tolas* (Pl. XXI, 7). (*j*) Thin finger ring of silver wire; diamond shaped bezel; gem missing. Diam. $\frac{11}{16}''$ (Pl. XXI, 5). (*k*) Hemispherical lump of silver cast in crucible; weight $9\frac{5}{8}$ *tolas* (Pl. XXI, 9). House II, room 10. Sk. 2679. Sq. 157·43′; 3′ 11″ b. s. (Pl. XXI, 1-11).

In the open square referred to above an L-shaped trench was sunk to a depth of between 9 and 10 feet below the surface, and various walls of the Third and Fourth strata were brought to light but no attempt was made to follow them up or lay bare the plan of the structures to which they belong. Among the coins found in the course of this digging were the two rare coins of Philoxenos and Maues (Nos. 4 and 11 of the list below) both of which were found in the fourth strata at a depth of 9′ 4″ below the surface. Of other minor antiquities recovered in this trench two, which also emanated from the fourth stratum, deserve mention namely :—

(82) Terracotta mask with a waved fillet across forehead. Broken obliquely below nostrils, and lower part missing. Ht. $6\frac{1}{2}''$. Sk. 2628. Sq. 168·36′; 9′ 1″ b. s.

(83) Standing male figure in round of terracotta; wears cloak over tunic reaching to knees. Right hand rests on right hip and left hand holds corner of cloak. Traces of white paint over body and drapery. Head missing. Marked Hellenistic influence. Ht. $3\frac{5}{8}''$. Sk. 2789. Sq. 166·44′; 8′ 11″ b. s.

Block 2′.

In regard to the excavation of the lower levels I have long recognised that, if their history is to be properly unravelled, I should be compelled to clear and remove one stratum after another (making of course a complete record of each before it was removed) and to do this over an area suffi-

ciently large for the plans of a fair number of buildings in each stratum to be recovered in their entirety. In pursuance of this plan I dismantled during the past season the small block of Kushān and Parthian structures, numbered 2′, on the west side of the High Street near the North Gate (Pl. XVIII, *a*). Had it been practicable, I should have preferred to choose for this deep excavation an area nearer to the centre of the city, where more important remains may be expected than in the outlying quarters near the city wall. But the difficulty of carrying out deep digging on a large scale near the middle of the site, is that it is impracticable to provide for the drainage of the excavations except at a prohibitive cost. This difficulty I was able to overcome at the northern limit of the city by driving a small tunnel under the foundations of the city wall, and constructing a culvert to carry off rain water into the lower ground to the north. As this culvert is 24 feet below the surface of the mound, it is deep enough to drain any excavation likely to be made in this part of the site, and up to the present has answered its purpose admirably.

The stratification and plans of the several superimposed buildings which this excavation in Block 2′ revealed, will be made clear by a reference to Pl. XVI. Of the buildings of the First or Early Kushān stratum, the foundations of only four rooms (Nos. 6, 7, 14 and 29) had survived in this plot, and these did not extend more than about 3 feet below the surface. In the Second or Late Parthian stratum also the remains are very shallow and much mutilated. In the Third and Fourth strata the structures are almost identical in plan, and their essential continuity is demonstrated by the manner in which the later walls rest for the most part directly on the earlier, without any clear break between them, whereas between the Second and Third strata, there is a narrow but definite layer of *débris*, showing that the buildings of the latter had wholly perished before the former were erected over them. Inspite of this break, however, the Second period building is not dissimilar in plan from that of the Third and Fourth periods, the main difference being that it is protracted more to the north, thus encroaching on First Street. In the 3rd and 4th periods there were two houses on this plot divided by a party wall running north and south, and approximately the same arrangement seems to have been perpetuated in the Second Period. Belonging to the Third Period in House I is a patch of rough limestone paving in the north-east corner of room 9, and patches of brick flooring in rooms 6 and 12, the latter of which may have been a bath. Room 4, also, seems to have had a limestone pavement, though the remains of it were very fragmentary, and in this room there were three rough limestone blocks in a line from north to south which, with a fourth that has since disappeared, may be presumed to have served as the bases of wooden pillars supporting the roof.

In the Fourth Period House I appears to have had a large court at the north-east corner, with a thin wall stretching across the middle of it from east to west, designed probably to screen the entrance which led into it from First Street. A somewhat similar arrangement, it may be remarked, is found in certain pre-historic houses at Mohenjodaro, but I do not recall any other example of the kind belonging to the historic period. In this (the Fourth) period there seems to

have been an entrance to House II by way of a passage (*vide* plan) from Second Street, but in the Third period this passage was walled up.

Descending to the next (FIFTH) stratum we find that the plot is no longer occupied by two houses but by a single one more regularly laid out, with eleven rooms ranged on the four sides of a central courtyard. This house, indeed, is the best planned of all in the six strata, and the rubble masonry of which its walls are composed is also the most solid and compact. It is the fifth and sixth strata that correspond to the period when the Greeks were ruling at Taxila. At one time, I surmised that it was the Greeks who built the stone fortifications of Sirkap, but it now appears that these were the work of one of the early Scythian Kings, Maues or Azes I. Actually, the foundations of the fortifications descend to a depth of between 15 and 16 feet below the surface, or about 30 feet below datum level, and they thus start approximately from the same level as the Sixth Period buildings, but whereas the foundations of the houses were only a foot or so deep—or even less when laid on pre-existing walls—, the foundations of the city walls were some six feet deep, so that at the time the walls were built the general ground level within them must have corresponded with that of the Fourth rather than the Sixth or Fifth stratum. This conclusion is confirmed by the discovery, to which I have called attention in a previous Report, of certain structural remains immediately beneath the foundations of the north wall. These remains must now be assigned to the Greek Period. In those days the city had extended over a very large area, including the Bhir Mound and Bābar Khāna, where the " Kachchā Kot " still marks the line of the old earthen defences. This area the Scythians found too large to fortify and defend adequately, and accordingly they proceeded to enclose only the most important and defensible part of the city—that is, the Sirkap area—dismantling such older buildings as were necessary for the purpose, and leaving the Bhir mound and the rest of the old city outside the new defences. As a fact, the Bhir mound itself had already ceased to be occupied, and we may infer, therefore, either that the population had considerably shrunk before the coming of the Bactrian Greeks or—which is more likely—that a substantial part of it was destroyed or dispersed by them.

To revert to the house in the Fifth stratum of Block 2′, in room 8 of this house was brought to light a colossal store jar of coarse fabric, and in room 2 a group of 6 punch-marked coins, other coins that were also found at this level being issues of Philoxenos, Apollodotos, Maues, and Azes I, besides one Local Taxilan. To the east of this building in what was doubtless a court or room of an adjoining house was a small semi-circular fireplace (*chulā*) constructed of rough limestone blocks lined with clay; and in the same court was found a neolithic celt (Sk. 211-No. 89 *infra*) of grey-green stone. The SIXTH stratum starts from an average depth of some 17 feet below the surface. In this stratum, curiously enough, we again find two houses with a party wall between the foundation of House II descending 3 feet deeper than those of House I; but in this case the party wall is some 10 feet further east than in the 4th stratum and in other respects the plans are dissimilar. In House I, there is a covered drain leading from room 7 through room 10 into Second Street, and there is a second

drain lined with slate which passes beneath the floor of rooms 6 and 7. This latter drain, however, is substantially deeper than the former and may have belonged to a still earlier building—a remark which also applies to the short length of wall between room 12 and court 13 in House I, the bottom of which is 19 feet below the surface (=33 feet below datum).

In First Street, which intervenes between this Block and the city wall, digging was carried to a depth of 26 feet from the surface, virgin soil being reached at a depth of about 23 ft. (Pl. XVIII, *b*.)

As regards minor antiquities, those recovered in the First and Second strata have already been dealt with in a previous report. Among those found in the lower strata are the following, listed according to the depth at which they occurred. Needless to say, it is not always possible to be sure of the particular stratum to which a given object belongs, but we may feel fairly confident in assigning Nos. 84 and 85 to the third stratum and Nos. 88 and 89 to the 4th, and Nos. 92 and 93 to the fifth. On the other hand Nos. 86 and 87 may belong either to the Third or Fourth, Nos. 90 and 91 to the 4th or 5th and Nos. 94 and 95 to the 5th or 6th.

(84) Side piece of a knife handle of bone, decorated with incised circlets. Pierced at one end by an iron rivet. Length $3\frac{1}{8}''$. Sk. 67, Sq. 15·87′; 5′ 10″ b. s. (Pl. XX, 8.)

(85) Earthenware cornucopia with a handle near the rim. Marks of burning inside, possibly from incense. Length $7\frac{1}{4}''$. Sk. 19. Sq. 10·91′; 6′ b. s.

(86) Lower part of a seated figure of terracotta. The figure, which is corpulent, appears to be male. Ht. $2\frac{1}{8}''$. Sk. 2645. Sq. 14·86′; 8′ 8″ b. s.

(87) Ivory handle of a fan (?) provided with three holes at one end for attachment of fan and hole at the other end for suspension. Length $10\frac{7}{16}''$. Sk. 2647. Sq. 12·89′; 8′ 8″ b. s. (Pl. XIX, 5.)

(88) Circular terracotta disc convex on either side and with depression round outer edge. Purpose unknown. Diam. $4\frac{3}{8}''$. Sk. 126. Sq. 13·92′; 9. 10″ b. s.

(89) Neolithic celt of grey-green stone with crescentic cutting edge. Length $2\frac{11}{16}''$. Sk. 211. Sq. 15·86′; 11′ 7″ b. s. (Pl. XX, 7.)

(90) Modelling tool (?) of bone with a flat end. Length $6\frac{1}{8}''$. Sk. 217. Sq. 15·92′; 12′ 4″ b. s.

(91) Copper needle with unusually small eye. Length $3\frac{7}{8}''$. Sk. 319. Sq. 16·88′; 12′ 10″ b. s.

(92) Human figure, seated cross-legged, of badly baked clay and poor execution; head missing and left arm damaged. Ht. $3\frac{1}{2}''$. Sk. 627, Sq. 14·92′; 13′ 6″ b. s.

(93) Metal worker's mould of slate with small beaded medallion. The mould is pierced by two holes for fixing other half. Length $1\frac{3}{8}''$. Sk. 270. Sq. 15·92′; 13′ 11″ b. s. (Pl. XX, 5.)

(94) Fragment of terracotta potsherd with horse in relief. Fine red clay with red wash. Length 2″. Sk. 329. Sq. room 9; 15′ 8″ b. s.

In connexion with the deep digging in blocks A′ and B′, I alluded to the occasional discovery of coins and other small antiquities in strata below those where they would normally be expected, the explanation being that for one reason or another the ground had been disturbed in ancient days. In the case of the coins found in the deep digging to the west of blocks A′ and B′, the cause is patent, inasmuch as some deep foundations of early Kushān date had been sunk to a depth of some 14 or 15 feet. In view of this it would obviously be unsafe on the strength of the coin finds to jump to conclusions as to the relative age of the successive strata laid bare in block 2′; nor on the other hand, would it be safe to attempt to deduce the relative dates of the various coins from the stratification in this block. The plot excavated is too small and the coin finds too few for this purpose. Before any general inferences can be drawn, a much larger area must be cleared and results co-ordinated over a representative series of buildings in each stratum. Meanwhile, the only provisional inferences that I venture to draw from the coin finds is that the Fourth stratum is approximately contemporary with Azes I, 8 of whose coins were found at different points in the *débris* associated with it, that Bactrian Greek Kings were ruling at Taxila when the city walls and buildings of the Fifth stratum were erected, though Punch-marked and Local Taxilan issues were still current, as they were also in the topmost level of the Bhir mound.

Below is a tabulated statement showing the coins from Sirkap according to the various depths at which they were found below the surface, together with a list of the rarer issues recovered during the year under review.

Consolidated statement showing the coins found in Sirkap during 1928-29 according to their depths below the surface.

Blocks 2′, A′, B′, D′, E′, F′, G′, H′, P and between A′ and B′.	Surface to 2′ b. s.	2′-4′	4′-6′	6′-8′	8′-10′	10′-12′	12′-14′	14′-16′	16′-18′	TOTAL.
Punchmarked . .	..	1	1	..	..	..	..	6	..	8
Local Taxilan . .	2	10	1	2	1	2	4	1	4	27
Agathokles . . .	..	..	1	..	..	1	..	1	..	3
Apollodotos . . .	1	..	..	..	1	..	1	3	1	7
Menander . . .	1	1	..	1	..	..	..	..	..	3
Philoxenos . . .	..	..	..	..	1	..	1	..	..	2
Strato	..	1	..	..	1	1	..	..	1	4
Hermaios . . .	1	12	8	2	1	1	2	1	..	28
Maues	..	..	2	..	1	..	..	1	..	4
Vonones with Spalagadames.	..	..	1	..	..	..	..	..	..	1
Azes I . . .	6	27	18	10	14	3	4	..	..	82
Azilises . . .	1	6	5	1	..	..	..	..	..	13
Azes II . . .	9	32	30	3	..	..	2	..	..	76
Azes and Aśpavarma .	2	1	4	..	..	..	..	..	..	7
Gondophares . .	3	11	14	4	..	..	..	..	..	32
Idhara . . .	..	1	..	..	..	..	..	..	..	1
Abdagases . . .	1	1	2	..	..	..	..	..	..	4
Zeionises . . .	..	..	..	1	..	..	..	..	..	1
Rājuvula . . .	1	2	4	1	..	1	..	..	..	9
Hermaios with Kadphises.	2	6	8	1	..	..	..	..	..	17
Kadphises . . .	6	42	221	18	2	..	1	..	..	290
Uncertain . . .	..	2	4	..	..	..	..	..	..	6
Illegible and indistinct .	114	..	..	..	..	..	..	..	..	114
										739

LIST OF RARE OR UNIQUE COINS FOUND IN SIRKAP DURING THE YEAR 1928-29.

Metal and size.	Obverse.	Reverse.	Findspot and Register No.	Remarks.
		Local Taxilan.		
1. Æ ·56″ . .	Tree in railing . .	Blank . . .	D′; Sk. 1228; 59·103′; 4′ b. s. .	Rare.
		Agathokles.		
2. Æ ·5″ . .	Stupa indistinct . .	Symbol . . .	H′; Sk. 2256; 116·88′; 10′ 6″ b. s.	P. M. C. 11, 51.
3. Æ ·8″×·62″ .	Buddhist Stupa and Kharoshthi legend.	Tree inside railing .	2′; Sk. 2870; 11·87′; 15′ 6″ b.s.	Rare. Cf. P. M. C. 11, 52.
		Menander.		
4. Æ ·53″×·48″ .	Wheel	Palm indistinct . .	D′; Sk. 1085; 57·95′; 2′ b. s. .	Unique. Cf. B. M. C. XII, 7.
		Philoxenos.		
5. Æ ·8″×·80″ .	Demeter standing to l. .	Bull to r. . . .	P; Sk. 2740; 175·37′; 9′ 4″ b. s.	P. M. C. VII, 590.
		Strato I.		
6. Lead. ·85″ .	Apollo to r. . . .	Tripod lebes . .	A′; Sk. 515; 19·85′; 8′ 2″ b. s.	Unique at Taxila.
7. Lead. ·7″ .	Ditto . . .	Ditto . . .	G′; Sk. 1982; 107·78′; 3′ b. s.	Cf. P. M. C. VIII, 647. Not in B. M. and I. M. Catalogues.
8. Æ ·9″×·74″ .	Bust of Herakles . .	Nike to r. . . .	2′; Sk. 438; 13·88′; 11′ 2″ b. s.	Not in P. M. C. Cf. I. M. C. IV, 13.
9. Æ ·8″×·8″ .	Ditto . . .	Ditto . . .	2′; Sk. 2869; 16·89′; 18′ 6″ b. s.	Not in P. M. C. Cf. I. M. C. IV, 13.
		Hermaios.		
10. Æ ·63″ . .	Bust of king to r. . .	Winged Nike to r. .	D′; Sk. 820; 64·106′; 3′ b. s.	P. M. C. p. 85, 692. Nike to r. Not in I. M. C. and B. M. C.
		Maues.		
11. Æ ·7″×·64″ .	Male deity with club .	Goddess to r. . .	H′; Sk. 2271; 119·75′; 12′ 7″ b. s.	Rare at Taxila. Cf. P. M. C. X, 25.
12. AR. ·7″ . .	Zeus to l. . . .	Nike to r. . . .	2′; Sk. 684; 14·92′; 13′ 8″ b. s.	P. M. C. X., 1 (Broken).
13. Æ ·9″×·85″ .	Poseidon standing to front, hurls thunderbolt at small figure.	Bacchante . . .	P; Sk. 2672; 174·38′.; 9′ 4″ b. s.	Rare. P. M. C. p. 101, 23. Not in I. M. C. and B. M. C.

LIST OF RARE OR UNIQUE COINS FOUND IN SIRKAP DURING THE YEAR 1928-29—*contd.*

Metal and size.	Obverse.	Reverse.	Findspot and Register No.	REMARKS.
		Azes I.		
14. Æ 1″×1″	Mounted king holding couched lance.	Bull (?)	2′; Sk. 49; 14·92′; 9′ 6″ b. s.	Rare. P. M. C. XII, 292.
		Zeionises.		
15. Æ 1·12″	King on horseback with bow.	Male deity with cornucopia.	G′; Sk. 2068; 101·86′; 6′ b. s.	Rare at Taxila. P. M. C. XVI, 82.
		Idhara.		
16. Æ ·5″	Mounted king	Pallas to r.	E′; Sk. 952; 70·99′; 3′ 6″ b. s.	Cf. A. S. R. 1912-13, Pl. XL, 23.
		Kadphises.		
17. Æ ·76″	Bust of Hermaios to l	Herakles	D′; Sk. 1342; 62·96′; 5′ b. s.	Rare at Taxila. Not in B. M., I. M. and P. M. Cat.
18. Æ ·78″	Ditto	Ditto	F′; Sk. 1558; 84·88′; 3′ 2″ b. s.	Ditto.
19. Æ 1·0	Humped bull	2-humped camel	F′; Sk. 1621; 88·86′; 4′ 8″ b. s.	Rare. A. S. R. 1912-13, XL, 51.
		Hermaios (?).		
20. Æ ·85″	Double impression of bust of king.	Enthroned Zeus (?)	D′; Sk. 1402; 61·96′; 4′ 6″ b. s.	
21. Æ ·6″	Crude bust of king	Standing deity to r.	D′; Sk. 820; 64·106′; 3′ b. s.	
22. Æ ·62″	Bearded bust of king	Indistinct	E′; Sk. 905; 68·102′; 5′ b. s.	
23. Æ ·55″	Indistinct	Standing figure to l	D′; Sk. 1197; 63·103′; 5′ b. s.	

EXCAVATIONS AT MOHENJO-DARO.

By Mr. E. J. H. Mackay.

It will be remembered that early in 1928, with the assistance of Mr. Majumdar, I cleared a considerable portion of the Dk. area at Mohenjo-daro immediately adjacent to the buildings excavated by Mr. Dikshit in 1926. Roughly some 13,610 sq. yds. were laid bare, and a most interesting series of artisans' houses unearthed, which have been briefly described in the Annual Report for 1927-28.

During the season 1928-29 a further area of about 4,555 sq. yds. was cleared in continuation of the work of the previous season, in order to clear up certain points and obtain a still clearer idea of the appearance and lay-out of this artisans' quarter, of which Pl. XXIII shows the completed plan. Those houses and other structures which are marked in full black, or are dotted, all belong to one period, designated here the Late Period. A close examination of the masonry enables us to sub-divide this into three sub-periods, (I), (II) and (III). Though the topmost of these (I) (indicated by dotting) is very sparsely represented, it is, judging from the objects found in it, quite certain that it belongs to the Indus Valley civilization. The second sub-period (II) is very closely superimposed on (III), and definitely shows a continuity of the same civilization.

Most of the houses represented in the plan rest on buildings of the earlier period called here the Intermediate Period, which, also, we sub-divide into three sub-periods (I), (II) and (III). It is with this Intermediate Period that we are here chiefly concerned.

As soon as the artisans' quarter of the Late Period had been completely cleared, photographed, and planned, and the levels of the buildings taken, we removed all walls that were based on *débris* only. Fortunately, however, most of them rested on the walls of the Intermediate Period and were in alignment with them, so that they could be left in place, save where they endangered the safety of the diggers. Indeed, they give the ruins, as they now stand, quite an imposing aspect, for in places the total height of the walls of the two periods reaches as much as 20 ft.

In excavating the artisans' quarter of the Late Period, we came upon a considerable number of wells, none of which were dismantled. For in the course of deeper excavation, we found that every one of them was commenced at a very early date and that they were simply added to as the general level of the city rose. The wells as now exposed stand up like factory chimneys, and they are frequently mistaken by visitors for towers. They illustrate most excellently the various phases through which this quarter of the city passed during the Intermediate and Late Periods, for at each occupation the steenings were raised. The steady deterioration of the masonry towards the tops of the wells is an index to the gradual decay of the Indus Valley civilization.

We have so far penetrated to an average level of 20 ft. below the highest part of the mound and reached sub-period (III) of the Intermediate Period. As a convenient datum level, we took the top of the northern wall of chamber 27

house I, block 9 (Pl. XXIII) which is 178·7 ft. above mean sea level. And every building, and the position of every object found have been referred to this datum.

Time, unfortunately, does not permit of a plan of the buildings of the Intermediate Period being included in this report; a large amount has still to be done to it before it can be ready for publication.

Before proceeding with a detailed account of the buildings of the Intermediate Period that have been cleared this season, it will perhaps be helpful to summarise the characteristics of the different periods and sub-periods, so far as they are at present known, for reference in future excavations at Mohenjo-daro and also at other sites belonging to the same civilization. When all the objects found in the various levels have been examined in detail, and the types definitely associated with their levels, it will be possible to date similar objects found elsewhere in India with some degree of accuracy.

Late Period.

Phase I. Consists mainly of isolated stretches of paving and walls, which represent the tail-end of the Indus Valley civilization. This phase is not commonly indicated in the area where we are now excavating. Average level *5 ft. below datum.*

Phase II. Houses whose door-sills or pavements average *7 ft. below datum.* There is, of course, a certain amount of variation due to the undulation of the surface of the mound, but this does not exceed a foot either way. The masonry of this phase is exceedingly rough; in most cases it can be identified without reference to the level.

Phase III. The door-sills and pavements of this occupation average *10 ft. below datum.* Being lower down in the mound, the levels are more constant. The masonry, like that of Phase II, is very rough, but the rooms are larger and these houses evidently belonged to people in better circumstances.

Intermediate period.

Phase I. The average floor-level of this stratum is *13 ft. below datum.* The masonry is much better in quality, but the buildings have been badly damaged by the people of the Late Period in the search for building material. The houses are of fair size and most of them aligned with and built upon walls of the earlier strata.

Phase II. The average level of door-sills and pavements is *16 ft. below datum.* The houses have larger rooms still, and the people evidently lived in more comfort. The walls of this phase rest for the most part on still earlier remains.

Phase III. The average floor-level is *20·4 ft. below datum.* There is considerable evidence of houses having been repaired; and it is possible that houses of the previous occupation were re-occupied. Both the houses and the masonry are of very high quality, and the buildings, very imposing. Evidences of flooding are to be seen in this phase.

Early period.

Phase I. The levels of two door-sills, which belong to this period and phase, but which are situated a considerable distance apart, are *22·5 ft. and 22·3 ft. below datum* respectively. Taking into consideration the fact that the lower we dig into the mound, the more uniform the levels are likely to be, it is permissible, I think, to group the pavements and door-sills found at depths of 22 ft. and over as a separate phase. Further excavation, however, will be necessary to settle this point.

Phase II. One door-sill has been unearthed at the very low level of *24 ft. below datum*. It is as yet impossible to determine whether the house to which it belongs should be associated with phase I or regarded as representing yet another stratum.

All the houses found in the lower levels of the Dk. area were simple in design, that is, they were square or rectangular structures—mostly the latter—and entirely lacking in decoration. Occasionally they had a court in front. Unfortunately, owing to additions made to the walls at later periods, we are not yet certain whether they had windows. In all probability there were only simple ventilation holes just beneath the ceilings of the rooms.

At the level of 18·4 ft. below datum, we were fortunate enough to find several large pieces of mud-plaster, bearing the imprint of reeds which had been laid parallel and closely lashed together to form a mat. The fact that this plaster was partly burnt accounts for its preservation. From this find and the existence of beam-holes in other parts of the site, we now know for certain that the method of roofing the houses at Mohenjo-daro was extremely simple. Each room was spanned with thick, squared, wooden beams, over which reed-matting was laid, on which was spread a coating of mud averaging 2 ins. in thickness, mixed with chopped straw and husks to ensure cohesion. This kind of roof is common at the present day in Sind and Iraq, as also in ancient Sumer and Egypt.

Attention has already been directed to the fact that the deeper we dug into the mound, the larger were the houses that we found. As far as we can ascertain from the particular area excavated, the Dk. mound was a very important quarter in the Intermediate Period. Some of the houses covered an area of over 2,580 sq. ft., and an area of about 1,520 sq. ft. is fairly common. They were all severely plain and utilitarian ; no attempt being made to decorate their façades or to relieve their monotony by departure from the strictly square or rectangular form.

A very good example of a house is seen in Pl. XXIV (*a*). Its frontage N.-S. is 41 ft. 4 ins., and back to front measurement, 57 ft. 6 ins. The sill of the original doorway on the right, which was found bricked up, is 20·2 ft. below datum, so the house clearly belongs to the Intermediate III period. The three apertures in the façade, of which the middle one is bricked up, are not windows as they appear to be, but actually doorways that were made at a later date, or dates, when the general level of the quarter had risen. There is a slight variation in the levels of their sills, though under 6 ins. ; the average is 13 ft. below datum. They must, therefore, have been made in the Intermediate I

period, and were in their turn blocked up in the Late Period. That the original doorway remained in use during the Intermediate II period seems extremely probable, as there is no doorway at the general level of that period, 16 ft. or thereabouts, in the building. The plan of the upper portion of this house as it was in the Late II and III periods is seen in Pl. XXIII, house III, block 10. The western wall of rooms 66 and 67 formed the façade of the building which is seen in Pl. XXIV (*a*), but in the plan the earlier doors are shown all blocked up and other doorways are shown in the southern wall of the building.

In front of this building there is a brick-paved courtyard of considerable size Pl. XXIV (*b*), but another building of the Intermediate III period abuts closely against the eastern side of the house. Narrow lanes, along one of which there is a well-made drain Pl. XXVII (*b*) separate it from the houses to north and south.

It is interesting to trace the history of these two lanes. Up to the time of the Late III period these by-ways were kept open; they were then blocked at intervals by cross-walls and made to serve as the rooms of houses. Chambers 53, 60, 61 and 69, to the south of house III, block 10 in Pl. XXIII, all lay above what must have formerly been a much used thoroughfare. The second lane on the left Pl. XXIV, (*a*) fell into disuse in the Late III period, and when we started our excavations it was topped by chambers 15, 50, 49, 98 and 94 to the south of houses II and V.

From these facts it appears that the bye-laws of the city were well observed down to the Late III period, but that after this the administration of the city became disorganized and encroachment on the lesser by-ways became the rule. It is possible, of course, that encroachments of this kind only occurred in certain quarters of Mohenjo-daro, but further excavations alone will settle this point.

It is somewhat curious that so few of the buildings of the Intermediate and Late Periods were found to be paved. Either the paving had been removed, or hard earth floors were used instead of the more convenient burnt brick. It is, however, quite possible that in some cases, particularly in the buildings of Intermediate date, brick paving was more commonly used than appears, and that it was removed in the Late Period for re-use as flooring or for some other purpose. A very carefully paved series of rooms is seen in Pl. XXVII (*c*) in a house which may be dated to the Intermediate III period by the level of its paving which is 20 ft. below datum. This building lay immediately below house V, block 10, in the plan. It was in a bad state of preservation owing to denudation, being situated close to the edge of the mound. It is, however, one of the largest houses in the Dk. (G) section, measuring 75 ft. long, N-S., and approximately 77 ft. in width.

As is seen in Pl. XXVII (*c*), a great part of the northern portion of this house was filled in at a later date with mud-brick, for a purpose that will be explained later.

In Pl. XXVII (*a*), is shown a lane that has been excavated below Intermediate III level and whose walls now stand over 16 ft. high in places. The average width of this lane is 5 ft., but owing to the batter of its walls and to alterations,

the width is increased to 5 ft. 10 ins. at the level of the tops of the buildings. In the Plate the reader will note with interest the evidences of the heightening of these walls at various periods; for instance, the right hand wall projects slightly at about one-third of its height, where an addition was made to it in the Intermediate I period. The obvious repairs that were made to the base of the wall in the foreground should also be noticed. They were very roughly done, the bricks being placed in every conceivable position, but they were porbably intended to strengthen the foundations and were not meant to be seen, *see* also Pl. XXIX (*c*) for similar repairs. The lane shown in Pl. XXVII (*a*) runs N.-S. and underlay the lane which ran between houses IV and VI, block 7, and house I, block 6, in the Late Period (Pl. XXIII).

Pl. XXVI gives a very good idea of the general appearance of the masonry of the lower levels. The footing of the chamber in the left-hand corner is 20·4 ft. below datum and thus belongs to the Intermediate III period. This chamber which was originally paved with burnt brick affords an excellent example of the removal of bricks from earlier pavements by the people of the Late Period for use in building their own houses. Owing to considerable denudation in this region, practically no masonry belonging to the Late Period had survived, and so no part of the building in the foreground is represented by later walls in the plan, save only by room 59, house II, of block 1, from which it extended southwards.

The well whose top is seen in the background in the middle of the photograph is the one marked in chamber 26 of house II, block 10. It is also shown partially excavated, in Pl. XXV and the various additions made to it in the different periods are clearly distinguishable. The present coping of the well, which has an internal diameter of 2 ft. 9 ins., is 5 ft. below datum, and so belongs to the Late I period. The preceding alteration was begun at the level of 9·8 ft. below datum, and must, therefore, be dated to Late III times. At 12·9 ft. below datum, there are indications of an addition which was made in the Intermediate I period, and we have reached a pavement surrounding this well at a level of 21·7 ft., which presumably belongs to the Intermediate III period or perhaps earlier still. It will be noticed that we have found no indications of additions having been made during the Late II and Intermediate II periods, but it is possible that careful building has left no evidences of alterations. I have no doubt that traces of earlier pavements and further evidence of the raising of the steening will be found when the buildings of the Early period are excavated next season.

In a large and important building in the south-western corner of the mound, we came upon a double stair-case, an architectural feature hitherto unknown at Mohenjo-daro. It had, moreover, unusually wide and shallow treads Pl. XXVII (*d*). The lowest tread of this stairway is 20·5 ft. below datum, which fixes it as belonging to the Intermediate III period. Each stairway is 3 ft. wide, the treads 8·5 ins. and risers 2·25 inches. The left-hand flight is the better preserved and what remains of it now reaches a level 17·4 ft. below datum. A drain, of which a part can just be seen in the illustration, formerly ran between the two flights of steps. The drain in the foreground is of later date, *i.e.*, Inter-

mediate Period II. This double stairway must at one time have formed part of a very important building, which is, unfortunately, almost entirely destroyed by denudation, being situated on the outskirts of the mound. It is doubtful if we shall ever find any trace of other parts of this building. No masonry of the Late Period had survived above this staircase.

In Pl. XXIX (*d*), a square tower-like building is seen, which must have been the result of the walls of an originally small square building being raised periodically to keep pace with the general rise in the level of the city. The quality of the masonry is so good, however, that the repeated raising of the walls is only indicated by the fact that three fresh outlets were made to a vertical chute in the thickness of the northern wall. The street drains of the later periods, into which the three uppermost holes emptied their water, were not found, but the lowest and best made drain-hole communicates with a street drain that is still intact. The levels of the lower edges of the four drain-holes are 7·1 ft., 13·8 ft., 15·8 ft., and 18·7 ft. below datum respectively. But it is difficult to assign all these four apertures to definite periods, for at present we do not know whether originally they all lay above or below the general level of the ground. The topmost hole, however, has a pavement behind it which belongs to the Late I period, and the lowest of the four is clearly of Intermediate II date, for that it, at any rate, lay below the surface of the ground is proved by the presence of the street drain. We have yet to excavate the structures of the Early Period beneath this building, which itself underlay chambers 1 and 2 of house I, block 11. And it is possible that we may find the vertical chute still continuing down with other drain-holes at lower levels.

As I have been much impressed by the many evidences of flooding in the Dk. area, as well as in other parts of Mohenjo-daro, I had several trenches cut in the flat, low ground beyond and to the south-west of the mound in order to investigate the matter further. In this region the soil is reddish in colour and mainly consists of decomposed bricks washed down from the mound. The surface has been uniformly levelled by the winter and summer rains. To a depth of 4·7 ft. is a uniform stratum of decomposed brick. Then comes a band of clay, 2 ft. in thickness, which is light grey in colour and without any possible doubt was deposited by flood water. The lower surface of this band is 26 ft. below datum, and beneath it lies another thick layer of decomposed brick, whose lowest limit we have not yet ascertained. Thinking that possibly this mass of light grey soil might be merely a pocket of clay produced by some unknown agency, I had another long trench sunk at a considerable distance away; and here again the same band of clay was found at identically the same level. A similar band of clay has also been observed beneath some level ground in another part of Mohenjo-daro, but it has not yet been fully examined. Unfortunately, we do not know how long it would have taken for this 2 ft. layer of silt to be deposited. I have made inquiries and learn that under certain conditions it could be deposited in one year, but that the probability is that a number of years would be required. Whether one year or more was required does not greatly concern us just at present, and it suffices to say that a very considerable amount of flooding

took place at Mohenjo-daro between the Early and the Intermediate Periods, which must have greatly inconvenienced the inhabitants of that place and was probably the cause of the city being temporarily abandoned. In some places quite thick walls have subsided, and in others damp has brought out the salt and left deep cavities in the bases of the walls which we have had to repair to ensure their continued stability.

On reference to the summary of the various periods and phases, it will be seen that there is a considerable gap between the Intermediate II and III levels, averaging well over 4 ft. The houses of the Intermediate III period show marked effects of flooding and it seems that at that period, too, the site must have been abandoned for some considerable time. These floods explain why portable objects are comparatively rare in the lower levels; everything that could be carried away was probably removed by the inhabitants at their exodus.

Some of the buildings in the Dk. area were found completely filled in with mud brick which was probably meant to provide solid foundations for houses built at later dates. A good example is seen in the top left-hand corner of Pl. XXIV, (*b*) and also in Pl. XXVII, (*c*). This filling was certainly done before the Late Period, for on it were built the various rooms of house I, block 11 as well as buildings a little to the south of them, which had almost completely disappeared. The filling extends down to the level of Early I period. That it may very possibly have been commenced at that time is strongly suggested by the existence of the river deposit referred to above.

An account of the objects of particular interest found at Mohenjo-daro during the season 1928-29 is given below:—

Dk. 7535. Pl. XXIX, (*b*). Bronze axe-blade, 11·15 ins. long and 4 lbs. 4 oz. in weight after cleaning. An inscription incised near the butt end may be the owner's name. On the other side of the blade there are seven characters, one below the other down the axis of the blade, which may perhaps represent numbers. If so, they are quite unlike the numbers on the seals, although they closely resemble certain Egyptian numbers, but the latter connection seems so remote as to be scarcely probable. This axe-blade was found together with a number of other copper objects at a level of 24 ft. below datum; but there is some doubt whether these tools can be of so early a date as that implied by their level, from the fact that they lay in front of a doorway. They may, therefore, be an intrusion.

Dk. 5828. Pl. XXVIII, (*b*). Steatite cylindrical seal, 1 in. long by 0·59 in. in diameter. Belongs to the Intermediate I period. An impression of this seal is shown in Pl. XXVIII, (*a*). The arrangement of the animals is strongly Sumerian or Elamite in character, but the presence of the *gharial*, or fish-eating crocodile, which is represented with a fish in its mouth, proves this seal to have been made in India. The two short-tailed beasts are probably antelopes of some kind, and the birds above them jungle-fowl. It is interesting to find a cylinder-seal in India, as it is an undoubted proof of connections, commercial or otherwise, with contemporary Elam or Sumer. The fact that this seal was found at a comparatively high level shows that the upper strata of Mohenjo-daro can

be safely dated to 3,000—2,750 B.C., for the thick form of the seal is very like pre-Sargonic seals found in Mesopotamia. It should be noted that the impression of the seal shows a repetition of the motifs, which does not actually occur on the seal itself.

Dk. 4732. Pl. XXVIII, (*c*). A terracotta model, 4·6 ins. long, of an animal strongly resembling a horse. What is left of the tail suggests an Arab breed. Unfortunately, the ears are missing, but they were clearly small in size. Bones of the horse have already been found in the higher levels of Mohenjo-daro, and as this animal has also been identified in the script on the very early tablets of Jemdet Nasr in Mesopotamia, evidence of its existence at Mohenjo-daro need not unduly surprise us. This figure is hand-modelled and was once covered with a red slip. It belongs to the Late II period.

Dk. 7829 b. Pl. XXVIII, (*e*). An ivory comb, 4·05 ins. long and with teeth on both sides, was found in a burial pit close to the edge of the Dk. mound. Though it cannot be definitely assigned to any particular period, it seems to belong to the Indus Valley civilization by reason of its association with other objects typical of that culture. This comb is beautifully made and its teeth had been cut with a saw. Level 21·3 ft. below datum.

Dk. 5467. Pl. XXIX, (*a*). A bronze mirror, the first of this period found in the Indus Valley. It is 9·3 ins. long and fairly well preserved, though it has entirely lost its polish. The face is slightly concave and the back flat. Belongs to the Intermediate I period.

Dk. 6847. Pl. XXVIII, (*g*). An enlarged impression of a most interesting steatite seal, 1·6 × 1·55 ins. in size. A female figure with long hair and horns, apparently a tree-goddess, is seen in a *pipal* tree. In front of her another female figure is kneeling in an attitude of adoration, and behind this worshipper stands a goat-like figure with a human face. In the lower register there is a row of seven votaries. A very similar scene occurs on a sealing previously found at Mohenjo-daro. The details of this latter, however, are not as distinct as they might be. It shows in a lower register the same figure in a tree with a goat before it. Behind is a kneeling figure holding what appears to be a knife. In the upper register of this sealing there is a row of six votaries, but whether they are male or female is not clear. Tree worship is extremely common in India, especially the worship of the *pipal* tree (*ficus religiosa*). That the *pipal* is represented on the seal in question is, I think, certain from the form of the leaves. This seal belongs to the Intermediate II period.

Dk. 5175. Pl. XXVIII, (*f*). An enlarged impression of a steatite seal, 1·4 × 1·39 ins. in size, and the most interesting that we have as yet found at Mohenjo-daro. It represents a horned figure seated on a dais in a *yoga* attitude; the arms which are adorned with bracelets are outstretched over the knees. The figure has three or four faces and is surrounded by four animals, elephant, tiger, rhinoceros and buffalo, all of which frequently appear on the ordinary seals. Beneath the dais there are two more animals. This figure is identified by Sir John Marshall with the Indian God Śiva. "My reasons," he writes,

"for this identification are four. In the first place the figure has three faces and that Śiva was portrayed with three as well as with the more usual five faces, there are abundant examples to prove. Secondly, the head is crowned with the horns of a bull in the form of a *triśūla*, and both the bull and the *triśūla* are characteristic emblems of Śiva. Thirdly, the figure is in a typical *yoga* attitude, and Śiva was, and still is, regarded as the *Mahāyogī*—the prince of *Yogis*. Fourthly, he is surrounded by animals, and Śiva is *par excellence* the "Lord of Animals" (*Paśupati*)—of the wild animals of the jungle, according to the Vedic meaning of the word *paśu*, no less than of domesticated cattle. Let me add that on another small faience sealing from Mohenjo-daro this deity is portrayed in the same *Yoga* attitude, but in that case he is being worshipped by attendant *nāgas*. The name Śiva ("the Auspicious One") is of course Aryan, but it is highly probable that this is merely the Sanskritised form of a pre-Aryan name which it resembled in sound. But whatever the God's original name may have been, it is clear from this seal as well as from other evidence, that his cult goes back to the Indus period, and hence that it is the oldest living cult in the world. It is also clear that the practice of *yoga* is equally ancient".

This seal must consequently be regarded as definitely Indian in character. It belongs to the Intermediate I period.

Dk. 7597. Pl. XXVIII, (*d*). This is another curious steatite seal, 1·22 ins. square, the meaning of which is far from clear. It shows an object or symbol with six radii, one of which is a unicorn's head. A very similar motif, but without the animal's head and with varying numbers of radii, is to be seen on some archaic press-seals from Mesopotamia. I am inclined to think that the motif represents the sun. This seal belongs to the Intermediate III period.

A certain amount of excavation was carried out towards the end of the season on an isolated building, situated to the north of the main stupa mounds, where excavation was begun by Mr. Banerji. But until the whole building is completely excavated, it is inadvisable to draw any deductions as to its purpose, or even its architectural features which present several interesting possibilities.

The season's excavations at Mohenjo-daro have definitely proved that the civilization of the sixth occupation down was very similar to that of the first. The same people clearly occupied the site and presumably they held the same beliefs. Whether the same will be true of the yet lower strata of the city remains to be seen.

Not a single object has as yet been found that we can definitely assign to the Neolithic period. Possibly such remains exist beneath the present water-level and we can, therefore, hardly hope to recover them. As far as the present evidence goes, the site is a Chalcolithic one down to water-level and burnt bricks appear to have been used throughout the various periods of occupation. It is, however, much too early to be dogmatic on this point. Some parts of the site which are as yet unexcavated may provide evidence of a Neolithic settlement situated at a comparatively high level, though I do not think that this is probable.

EXCAVATIONS AT HARAPPA.

By Mr. Madho Sarup Vats.

Site F.

Explorations at HARAPPA were resumed in November last on the south-west portion of mound F, the Parallel Walls' Area and Trench 1, as well as on the low lying areas opposite the *Thana* mound and the Museum. The last two sites have been designated G and H respectively.

Two long trenches, IV and V, were sunk in the north-west portion of mound F. The former (335′ × 55′) runs from north to south close to the western edge of the mound, and the latter (290′ × 40′) from east to west, joining the former about the centre. Both of them were excavated to an average depth of 9′ 3″, on an elevated part of the mound, in the hope of recovering better preserved structures, but revealed merely deep accumulations of potsherds, terracotta nodules, ashes and brick-bats. Among potsherds the most numerous are those of vases with pointed bottoms. The buildings are fragmentary and save for a few stray finds and interesting potsherds, nothing worthy of note was found within 4′ of the surface of the mound, which has a marked fall towards the north and at the centre of Trench V. Four strata of buildings have been recovered in these trenches. The upper two are of poor construction, while the third and fourth are not only better built but also represented by a number of thick walls.

At the southern end of TRENCH IV several stout walls of the fourth stratum were exposed, but they do not form a connected plan. It was here that an important collection of jewellery was discovered at a depth of 7′ 8″ to 8′ 4″. It lay in a bed of hard earth containing pieces of charcoal and consists of gold, silver, stone, faience and shell objects (Pl. XXX, *d*). The gold objects comprise: a hollow armlet and bangle, a conical ornament for the temple or forehead, a heart-shaped pendant in *repoussé* inlaid with blue faience, a brooch with silver backing, shaped like the numeral 8 and inlaid with two rows of tiny cylindrical steatite beads having gold ends, a necklace consisting of 240 beads in four strings, two wristlets of beads and two others each containing 27 conical bosses, and a string of 27 beads of various shapes. One broken silver bangle and numerous fragments of another, along with six necklaces consisting of pendants and other beads of gold, steatite, agate, jade, blood-stone, and faience, three necklaces of cornelian and two each of steatite and faience and one of shell complete the list. Nearly 4′ above this hoard of jewellery was found a well-preserved copper bracelet (1·11″) with over-lapping ends (Pl. XXXIII, *a*, 1). Among the few finds recovered in this area may be mentioned five potsherds painted with the figure of a stag, an open globular vase, a double-convex narrow-necked vase painted with black bands, a beautiful steatite ear-button (Pl. XXXIII, *f*, 1), a polished chert weight and several fine discoid and miscellaneous beads.

In the central and northern portions of this trench were found several large jars, one long and tapering, painted black, and another bearing an inscription. The inscribed jar yielded an oval vase with long neck, a small squat vase, a double

convex faience sealing with acacia tree and pictograms and the decayed remains of some cereal. Among the fragmentary buildings in the central portion of the trench is a small room (8′ 8″ square) with walls, one brick thick, buttressed near the centre of each side. The pottery found lying on the floor comprised five vases with pointed bottoms, a round earthen vase, one *hāṇḍi*-shaped and one ribbed jar and a large broken open-mouthed vessel. Forty feet south of this room is a well 2′ 8″ in diameter from which a drain leads westward. Eighteen feet below the existing top of the well, were found several objects of copper, faience and ivory. To five copper fragments were sticking numerous ribbed faience objects having the ends chamfered for inlay (Pl. XXXIII, *h*). In several cases they have a blind hole or holes on the reverse. Ivory objects found with these antiquities included a rod, baluster and a tablet rounded at one end. Several other interesting objects were recovered in this area among which were four steatite seals and two faience sealings. One of the seals is fish-shaped (Pl. XXXII, *b*, 12) and another bears a unicorn. Of the sealings, one is circular and the other rectangular and plano-convex. The circular one shows a god under an arch of *pipal* leaves on one side and on the other a *svastika* in a square and having an inscription along the border (Pl. XXXII, *b*, 9 *a-b*). The remaining finds are four small cylindrical faience objects inscribed with a circle at top and bottom, seven beads, two chert weights, a terracotta ring-stand and a small copper ring (Pl. XXXIII, *a*, 3).

In the northern section, buildings are very poor, some having walls of sun-dried bricks. Nevertheless this portion was rich in small finds. From various parts of this section were recovered three small steatite seals, a three-pronged object with holes, half of a beautiful miniature faience vase (Pl. XXXIII, *e*, 8 and 2) and a terracotta corn-measure. Most of the small objects including 27 steatite seals were found near the northern extremity of the trench, 3′ to 9′ below the surface. Of these, two show the unicorn and one a bull bending over a trough (Pl. XXXII, *b*, 1). In addition to the seals there were found three faience and two terracotta sealings, one of which bears a rosette of seven *pipal* leaves on one side and an inscription on the other (Pl. XXXII, *b*, 10 *a-b*). Of the terracotta sealings which are plano-convex one is peculiarly interesting but unfortunately broken at one end. On the plain side to left is a man attacking a tiger from a *machan* set up against an acacia tree, the representation being identical with that on a seal found in another part of this mound in 1926-27. [1]. On the convex side the scene is depicted vertically: in the centre of the upper field stands a man with a rampant animal—possibly a lion—on either side, but unfortunately the heads of all are lost. In the lower ground, facing right, is an elephant symbolic, perhaps, of a dense forest (Pl. XXXII, *b*, 7 *ab*). This scene is reminiscent of the exploits of Ea-bani who in Sumerian legends is recorded as fighting with lions and bulls in forests. [2] The other objects from this trench comprise two cubical weights, a chert core and scrapers, 8 tapering pendants grooved at the head, numerous beads of various shapes in cornelian, steatite, faience, conch,

[1] *A. S. I.*, 1926-27, p. 102.
[2] L. W. King, *History of Sumer and Akkad*, pp. 77 and 174, Pl. opp., p. 76 and figures 52 and 54.

copper and terracotta, a tiny damaged boss and bead of gold, two copper bosses, a copper knife (Pl. XXXIII, *a*, 4), a long narrow copper dagger (Pl. XXXIII, *c*), broken ivory balusters and a club-shaped rod, an unfinished wavy shell ring, a terracotta tile incised with cross hatching, and many river shells.

The walls in TRENCH V are in general more fragmentary than those in Trench IV (Pl. XXX, *b*), and finds save terracottas were rare. Five collections of pottery were unearthed 2′ to 7′ 7″ below the surface, consisting chiefly of pointed *loṭās*. Near the centre of the trench is a narrow well, 2′ 4″ in diameter, in which, as in the larger well in Trench IV, the water level lies at a depth of about 33′ below its existing top. Connected with it is a small pavement and drain and four large damaged open-mouthed jars (Pl. XXXII, *a*). Four other similar jars and four smaller vessels were also discovered in the trench and in a broken oval jar were found a bud-shaped faience pendant (Pl. XXXIII, *f*, 7) and an ivory baluster. Forty feet east of the well, remains of two bovine animals and a highly corroded copper spear-head (Pl. XXXIII, *a*, 5) were recovered 9′ to 10′ below the surface. The bones which were partially buried under a wall consist of the fore-parts of two horned skulls and two legs of a hoofed animal. The spear-head is interesting as it shows the impression of a wooden handle on the rusted surface. The trench also yielded six steatite seals and two faience sealings one of which bears the device of an acacia tree. Other interesting finds from this same area were a cubical die, small cone of yellow sandstone with two grooves (Pl. XXXII, *b*, 2), a double-convex bead decorated with circular, heart-shaped and trefoil designs on a deep orange ground and a faience snake-head (Pl. XXXIII, *b*, 1).

The most outstanding find from this trench is the torso (ht. $3\frac{3}{4}''$) in red sandstone of the nude figure of a man carved in the round, which was discovered 15 feet north-west of the well and 4′ 10″ below the surface (Pl. XXXI, *a-d*). It has sockets in the neck and armpits for the now lost head and arms and a circular groove at each shoulder possibly for inlay and made, no doubt, with a tube drill. The nipples, too, are marked by holes for inlay. The modelling is perfect and as an example of plastic art, the statuette is far superior to any hitherto found at either of the Indus Valley sites. It compares favourably with the best examples in Greek Art, while among the most ancient statuary it can be compared with the excellent figure of the 'Scribe Accroupi' of the *Louvre* dating from IVth—Vth dynasties in Egypt.[1] Its modelling of the abdomen is peculiarly Indian and the chest is less robust than in Greek examples. Moreover, in Greek Art a statuette of such small dimensions would not be made in parts. Nor is there anything in historic Indian statuary with which it could be compared. On the other hand, its early date is suggested by interesting points of technique and the find-spot. Several antiquities essentially connected with the Indus culture have already been found at Harappa carved in this very red sandstone, notably a flower cone found by Rai Bahadur Daya Ram Sahni. Moreover, the making of grooves for inlay[2] with a pointed or tube drill—in this

[1] *Cambridge Ancient History*, Plates Volume I, p. 82 and opposite plate.

[2] Cf. statuette found by Mr. Dikshit at Mohenjodaro in which the eyes are inlaid with shell. *A. S. I.*, 1925-26, Pl. XLIII, *a*.

case at the shoulders, chest, etc.,—is a common practice in this Indus Valley culture while the making of the statuette in parts occurs also in the remarkable statuettes of rams found by Woolley in the Death Pit at Ur.[1] It must also be added that although a considerable area has been explored on mound F, not a single late object has ever been found in it. Indeed, even the things found merely by scratching the surface of the mound belong to the Indus culture.[2]

Several interesting objects were found near the eastern end of the trench, 5′ to 6′ below the surface. Among them are, a copper vase with straight neck (ht. $6\frac{1}{6}''$), a squat terracotta jar painted at the shoulder with dots and wavy lines, and lumps of burnt sesame.[3] Further down, at a depth of 13′ 5″ to 13′ 8″, was recovered a collection of pottery comprising a painted jar on a ring-stand, a large but fragmentary handled lid, a bowl, a painted plate on stand, a flat bottomed oval jar, a small cooking pot with prominent flange at neck and a large jar painted with black bands. The plate on stand has a large lip painted with wicker basket patterns, but the deeper cup-like portion shows a tree, the underside and funnel-shaped stand being decorated with bands and leafy devices (Pl. XXXIII, *d*, 4, and *g*, 2). In clearing these antiquities an inscribed potsherd and a plano-convex faience sealing were also recovered.

Common to both the trenches are certain circular structures, of which no examples have been found in the previous excavations at Harappa. These, ten in number, are constructed of one course of brick-on-edge of four concentric rings of masonry (diam. 10′ 8″) but the tenth, which stands apart, 31 feet south of the well in Trench IV, is smaller in size (diam. 7′) and built in parallel rows diminishing on either side of the diameter so as to form a circle. Six of them lie in Trench V extending over 131 feet from east to west and three in the northern section of Trench IV also stretching in the same direction (Pl. XXX, *a*), the shortest distance between the two groups being about 29 feet. It is remarkable that each of them has a hollow at the centre equal to two rings in diameter. On examination, the hollow in one of them was found to contain a small quantity of burnt wheat and other seeds and about a seer of charred animal bones including teeth.

---

[1] C. L. Woolley "Sumerian Art and Human Sacrifice," *Illustrated London News*, January 26th, 1929, p. 134.

[2] This object is attributed by Mr. Vats to the Indus Valley Civilisation because of its find-spot, material, the use of a tube-drill and its construction in parts, but to this view I am unable to subscribe. A single object may be found anywhere and the material of this image does not appear to be precisely that from which the "flower-cone" is made. Moreover, a somewhat similar figure in a grey stone was found at Harappa some years ago. In any case certain worked red sandstone found at Harappa appears to be of the historic period, and the site was occupied during the Gupta period. After close examination of the image I am not satisfied that a tube-drill has been used for the circular holes on the shoulders, and its construction "in parts" is doubtful. I believe the arms, which were originally part of the same stone to have been broken at some period and holes made later for a repair, and in all probability it was damage to the head which necessitated the holes now visible in the neck. The sculptor who carved this torso would have experienced no difficulty in sculpturing the body, head and arms in one piece. But the strongest argument against assigning an early date to this figure is its essential difference from all the images and figures found at the Indus Valley sites. They are, without an exception, crude, archaic and lacking in anatomical correctness, whereas the figure in question is anatomically correct and the work of a sculptor in possession of an advanced technique.—*Ed.*

[3] This and other cereals found before at Harappa were examined by Rai Sahib Jai Chand Luthra of the Punjab Agricultural College, Lyallpur. He says:—

"(1) These are grains of wheat. Resemble closely the grains of Tritticum Compactum (Dwarf Wheats)." These wheats are grown in dry tracts.

(2) These are grains of common husked barley.

(3) A mass of seeds of sesamum (*Til*)".

Parallel Walls Area.

The two series of Parallel Walls which have been described in the Annual Report for 1926-27 were further explored. That the two series are precisely alike is established by the discovery of buttresses at the eastern end, piers at the extremities of the intervals between the corridors, which are linked up with each other by full length walls, and, traces of the common foundation wall at the western end of the eastern series. The retaining wall was originally laid along the south of the two series and turns to north at both ends. A complete account of this building has been reserved for later publication with a plan. In the central aisle were found lying together three large jars, one of which is long and tapering, a copper chisel, stylus and two engraver's tools (Pl. XXXIII, *a*, 6 *a*, *b*, *c* and 7). From the area around the walls, four steatite seals and seven faience sealings were recovered. The seals bear the devices of a bull, unicorn, standard and a goat (Pl. XXXII, *b*, 11). Among the sealings are two prisms, triangular in section showing on one of the faces a bull feeding from a trough and a crocodile.

In course of clearance in Trench I, several interesting objects were found. A little north-west of the rooms standing at the southern end of the trench were discovered animal bones, 9′ 10″ to 10′ 4″ below the surface. Further down at a depth of 13′, was recovered a small rectangular steatite seal and forty feet north miscellaneous antiquities (15′ 8″ b.s.) consisting of three steatite seals, one ovoid of the small type, one bearing a unicorn and the third showing an elephant (Pl. XXXII, *b*, 3 and 4), two small thin steatite discs with pairs of holes along the edges, a similar object with a projecting end (Pl. XXXIII, *f*, 5 and 6), tubular, discoid and other beads of stone and faience, two flint cores, a well preserved copper celt, a small ring and beads. At varying depths, between these two groups of antiquities, were picked up a cylindrical faience sealing showing an acacia tree, a cubical weight, two black marble pendants and a double-convex steatite bead with traces of red paint. On the opposite side along the eastern edge of the trench, and at a higher level, was discovered a well preserved trough and at a depth of 11′ 9″, was found a tiny rectangular steatite seal.

A gutter lying immediately north of the deep digging was cleared for a length of 62 feet. In this was found a bossed square steatite seal (18′ b.s.) of a new type, with a two-line inscription on the left and the usual standard in the right field but without any animal[1] (Pl. XXXII, *b*, 2). Excavation north of this gutter revealed two tiny rectangular steatite seals, an interesting terracotta sealing showing an object resembling a fluked anchor on one face (Pl. XXXII, *b*, 6 *a*, *b*), a spear-head and a copper spoon with two holes resembling mother of pearl shell (Pl. XXXIII, *a*, 8).

Site H.

On the low ground by the side of the road passing through mounds D and E, which has been designated Site H, Trench I (200′ by 20′) was carried from north to south so as to embrace the old pit where burial jars[2] were excavated last

[1] Photographs of larger seals are taken from casts and the position is therefore reversed.

[2] *A. S. I.*, 1927-28, p. 86.

year. Around this burial group were discovered seven more burial jars, two deep bowls, four long necked flasks (Pl. XXXIII, *e*, 2-5) and nine lids including two painted with stars, and kite and fish devices (Pl. XXXIII, *g*, 1 and 3). Pending examination of their contents the jars have been removed intact to the Museum. It is worthy of note that one bowl had six platters lying in a semi-circle immediately to its north.

At the north-west edge of the trench a human skeleton, lying east-south-east and west-north-west, was discovered 3 feet below the surface and close to it on the north lay some animal bones. A few pieces of the skull, some ribs and other bones of the skeleton are missing.

Among minor finds recovered from this trench are a rectangular plano-convex seal and a fragment of another with three pictograms, a broken chert polisher and a terracotta toy showing two monkeys one climbing up and the other down the stump of a tree.

Site G.

Immediately south of the Lahore-Multan road and opposite the Thana mound, a rectangular piece of land, about 10 acres, was acquired for exploration late in the year. This has been named Site G and like Site H is low ground. Its northern portion is level with the fields to the east, but the southern is slightly undulating. This site is more highly charged with saltpetre than any other at Harappa. Antiquities found in it begin to crumble if not immediately subjected to treatment. Two trenches were sunk on this plot: No. I (280′ by 10′) from east to west almost through the centre of its northern portion and No. II (400′ by 10′) from north to south, bisecting the southern portion. Traces of two brick walls were noticed in an existing irrigation channel near the western end of the Trench I and a large rectangular area, called Trench III (127′ by 60′) was excavated round these two walls.

Trench I was dug to an average depth of 5′ 6″ and yielded a chert weight, a copper knife, a biconical banded stone bead, a cubical terracotta die, a miniature vase painted with bands, a *loṭā*-shaped vase, a fragmentary perforated basin and a sherd painted with designs of foliage and peacocks.

From Trench III were recovered a fragmentary unicorn seal, two faience sealings, a steatite amulet with cross-hatched incisions on both faces (Pl. XXXIII, *f*, 4), a handled cup, an open mouthed flanged vase, a fragment of a large dish and a terracotta chessman. A fragmentary jar lying 4′ below the surface in this area was found to contain a pointed *loṭā*, two miniature cylindrical vases, an ivory baluster with incised decoration, numerous sherds mostly of pointed *loṭās*, pieces of triangular terracotta cakes and bangles, an earthen ball and bones. The contents resemble those of numerous jars examined on the mounds.

Trench II was dug to an average depth of 7 feet. In its northern portion were found 31 cylindrical terracotta sealings having a unicorn on one face and four pictograms on the other (Pl. XXXII, *b*, 5), all from the same matrix, two unicorn seals, a plano-convex rectangular faience sealing (Pl. XXXII, *b*, 8*a* and *b*) and two inscribed potsherds. On the flat side, the sealing shows to right, standing under a voluted arch decorated with *pipal* leaves, a god wearing a

close-fitting garment and full boots with the hands pointing downwards. In front of him kneels a man with hands folded in adoration and a goat, which, to judge from its site, may be a semi-divine intermediary. Terracotta toys from this trench include two interesting female figurines, one carrying a fruit-basket and a fragmentary pedestal in front of a seat with the feet of a missing human figure.

Two groups of pottery, one below the other, were found in the southern portion, embedded in soft soil (Pl. XXX, *c*). One of these lay only 2 feet below the surface and consisted of three small jars, two dishes decorated with black bands and one on a funnel-shaped stand. Further down, at a depth (Pl. XXXIII, 2) of 5′ 9″ to 6′ 6″, lay the second group consisting of the following objects :—

(*a*) A small necked globular jar tapering in the lower portion and painted with three sets of black bands on a red surface (ht. 8¾″). It was covered with a handled lid and rested on a ring-stand.

(*b*) A large bulbous vase covered with a funnel-shaped lid (ht. 6½″).

(*c*) Six oval vases (ht. 5¼″ to 7″).

(*d*) Two open mouthed oval goblets (ht. 6″).

(*e*) Vase with splayed neck (ht. 8½″) Pl. XXXIII, *e*, 6.

(*f*) Eight long and slender vases (ht. 5¼″ to 6″) Pl. XXXIII, *e*, 1.

(*g*) A censer-on-stand (ht. 11″) Pl. XXXIII, *d*, 1.

(*h*) A dish-on-stand (ht. and diam. 12″) Pl. XXXIII, *d*, 3.

(*i*) Twenty shallow dishes (diam. 11″ to 11½″).

(*j*) Five lid-like objects (diam. 7¾″ to 8¼″).

Except the oval vases, all these objects have a red slip, but none is well baked.

Close to the southern extremity of the trench, a well has been discovered (diam. 3′ 3″) in which the water level is 25′ below the existing top, or about 31′ below the surface. Sherds of a very large and thick jar were found in it.

About 140′ north of this well, and scattered over an area 12′ by 8′ were discovered several human remains, 5′ to 6′ below the surface. They were only partially cleared and had to be covered with a thick layer of the original moist soil owing to difficulties at present experienced in removing them. But in so far as the remains excavated were concerned, good photographs of them were taken from all sides. Some typical Harappa pottery was also found intermixed with these remains. At least eight bodies were traced. One skeleton lay roughly north and south at a lower level than the others, two heads pointed to the south, another which is very much damaged to south-west, and between them lay four detached heads close together.

It would appear from the trial trenches that the site had been used in ancient days as a rubbish dump. Enormous masses of terracotta nodules, potsherds and ashes were met with almost everywhere to a depth of 5′ to 7′. Here and there in the rubbish were found fragmentary walls of poor technique. But below the rubbish appears soft alluvial soil and it is in this that groups of pottery, skeletal remains and the well mentioned above were found.

Two pits were also sunk : one at the northern end of Trench II and the other near the southern edge of Trench III. In the former, the forepart of a bovine

skull was found, 13′ below. Two rectangular seals of the small type were found 10′ below the surface in this same area.

Certain female figurines recovered this season call for special mention. Two have flowers in their headdress, another has a conical ornament on the forehead and a fourth, an 8-shaped brooch on a braid of hair. These figurines explain the use of certain jewellery found in Trench IV on Mound F.

For the identification and analyses of various objects I am indebted to Mr. Sana Ullah, Archæological Chemist in India, and Mr. V. Narainswamy of the Botanical Survey of India. The former has identified specimens of Orpiment (Sulphide of Arsenic), Gypsum (Sulphite of Lime) and Glauconite (a green earth used as a pigment). He also reported that a blue earth having a soft and soapy feeling was probably used as a pigment for mural decoration and that a curious conical object was composed of a core of Gypsum plaster with outer shell of lime from which it may be inferred that both Gypsum and lime plaster were in use during this period. Of three specimens of charcoal Mr. V. Narainswami notes that one is of a *Bambusa*, the second of *saccharum arundinaceum* and that the third specimen is of some pine-wood.

A considerable area has been systematically explored on the lower mound F and to a lesser extent, on mound AB ; but the low grounds received only the most superficial examination. In view of the importance of burial jars from Site H and human remains in Site G, a more complete exploration of the low grounds is called for, not only for the collection of more evidence concerning these burials but also in order to ascertain their relationship with the mounds.

EXCAVATION AT DALLIN.

By Mr. Madho Sarup Vats.

At the instance of the Director General of Archæology I visited DALLIN in the Montgomery District to examine two circular "bastion-like structures" discovered by the Irrigation Department in the bed of the Pakpatan canal. The larger structure (diam. 18′ 2″) stands along the southern toe of the canal berm and the smaller (diam. 14′) in the midst of the canal. The distance between them, centre to centre, is 108′. But as the canal was then flowing their complete examination was impossible.

On the 10th October, 1928, however, the main Pakpatan canal was completely closed at Suleimanke Head Works and re-opened on the morning of the 13th. As advised, I visited Dallin on the 12th and 13th. Water was still flowing though it had become quite shallow. Round the larger structure the Sub-Divisional Officer had put an earthen *bund* and taken out water, so that it could be examined both from inside and out.

For convenience of reference the larger structure has been termed 'A' and the smaller 'B'. The former was excavated to a depth of 6′ all round and 14′ inside. Its shaft was still descending, but the bottom could not be reached as information was received on the 13th evening that water was already within 30 miles of Dallin. The structure, so far as it has been excavated, is

composed of two sloping and concentric rings of masonry placed one over the other and built round a thin and hollow shaft 10 feet in diameter. Being battered, the rings are broadest at their bases, so that the lowest course of the upper projects slightly beyond the top of the lower (Pl. XXXII, *d*). The latter consisting of nine courses is 2′ 6″ high. The upper ring having twelve courses is 3′ 3″ high and there are traces in the eastern quarter showing that the whole of its edge was originally overlaid with a course of brick-on-edge similar to the course which crowns the edge of the battered ring of the smaller structure. The lower ring has four sets of steps placed at equal intervals of 13′ 8″; but in the upper ring, half of which has disappeared, only two 8′ 6″ apart, are preserved in the portion towards the toe of the canal berm. In 'A' in each case the steps are wedge-shaped and three in number, but in 'B' they number two only. The tread of the lowest steps in the upper ring is 1′ 11″ and in the lower 1′ 6″, but in both the risers are 9″. Below the foundation of the lower ring a portion to north was removed in order to trace the shaft from outside. In doing so the outer face was found to be superior in finish to the interior. At the same time it was ascertained that the wall of the shaft is only 10″ thick. This structure, as stated above, was examined to a depth of 14′ and yielded one male and two female terracotta figurines (Pl. XXXIII, *i*, 1-5). Like the heads mentioned below they may be ascribed to about the 7th century A. D. For the rest, the shaft was filled with earth, potsherds, animal bones, pieces of charcoal and plenty of ashes.

Structure 'B' (Pl. XXXII, *c*) as far as it could be examined, consists of a similar ring of sloping masonry round a hollow shaft as in 'A'. It has a steening wall which, in the best preserved portion, rises above the brick-on-edge course to a maximum height of 2′ 5″. The battered ring is pierced by three sets of steps at intervals of 14′ 9″, 18′ 9″ and 7′ 8″. The interior was excavated to 11′ from the top of the steening but yielded nothing.

It will be noticed that steps connected with the upper ring of structure 'A' and with the ring of 'B' lead to the course of brick-on-edge. Probably a steening, similar to that in 'B', also originally existed above the brick-on-edge course of 'A,' but no trace of it is now preserved. It is obvious that the upper ring in 'A', which is superimposed on the lower and is of exactly the same pattern, was added later when the level of the surrounding surface had risen, for otherwise it would have no foundation (Pl. XXXII, *d*). The fact, however, that the outer face of the shaft which was traced below the lower ring has a finer finish than the inner, leads me to think that it was meant to be exposed to view. If so, the lower battered ring would also have been added later than the construction of the original shaft.

It is interesting to note that the battered rings round these structures resemble the outer concentric wall which was added at a later date to the original building of the monument known as Maniyar Math at Rajgir.[1] That they are not wells is obvious from the roughness of their inner face, nor could they

[1] *A. S. I.*, 1905-06, p. 105, Pl.. XXXIX, 1.

be bastons as suggesteed by an officer of the Irrigation Department, for in that case they would be linked to each other by a curtain wall. Moreover, ordinarily it would be unnecessary, to have two wells only 92′ apart. But whether they were stupas or large structural *liṅgas* with the battered rings for the *yoni*, is difficult to say as little survives above the rings and the portion buried underground could not be thoroughly examined. These structures form part of a small ancient site which extends for a few hundred feet to the west of the canal. The bricks found here and there measure 15″ by 10″ by 2¼″ and 14″ by 10″ by 2¼″, but those used in the masonry of these structures are 10″ by 10″ by 2¼″.

Several antiquities recovered from this site were made over to me by the Superintending Engineer, Sutlej Valley Project. They comprise many circular copper coins all so corroded as to be of no numismatic value, two terracotta male heads (Pl. XXXIII, *i*, 1 and 4), two cylindrical vases with low neck, three potter's dabbers, 8 square incised terracotta tablets, a small broken slate tablet faintly inscribed at two opposite corners on one face with the word *Narikasya* in characters of the 7th century A.D. On one of the dabbers are devices of a fish, serpent, one resembling an ' S '-shaped hook. The terracotta heads and pottery referred to above were also discovered in the same stratum and on stylistic grounds may be ascribed to the same date.

EXCAVATIONS AT NĀLANDĀ.

By Mr. J. A. Page.

The Buddhist site of NĀLANDĀ in Bihar has been described in many of the previous reports ; but it may here be recalled that the remains range in date from the 6th to the 12th century A.D. and embrace a line of contiguous monasteries along the east of the site, a parallel line of detached *stupas* along the west, and a couple of monasteries bounding the area on the south. Down the centre of the site there seemingly ran an approach avenue, entered from the north. A remarkable feature of the site is that the structures it contains have been destroyed and rebuilt many times, one directly on the ruins of another.

The typical monastery is planned round a square courtyard, which is enclosed by a colonnaded verandah backed in turn by the monks' cells. In the centre of one side is located the main shrine, and immediately opposite it, the entrance gateway.

MONASTERY SITE NO. 4.

The excavation of MONASTERY SITE NO. 4, which is the second in the range from the south, was carried to completion by the clearance of earth from the verandah on all sides down to the earliest (pre-Deva-Pāla) level, and again from the cells that remained to be so excavated over the north half of the monastery area. This clearance was undertaken for the purpose of retrieving any minor antiquities that might lie in these areas, and the cells and verandah were thereafter filled up again in accordance with a scheme designed to exhibit a definite portion of each of the successive structures erected on this site. That is to say, the cells and verandah over the north half of the site have been left exposed at the Deva-Pāla level ; those in the north-east corner of the site have been left

at the earliest or pre-Deva-Pāla level; and those in the southern half of the site have been filled up again to the topmost level (post-Deva-Pāla). The centre courtyard is also being left at the topmost level to afford a better idea of what the topmost monastery looked like, in contrast with the similar feature in Site No. 1, next to this, where the courtyard of the earliest level has been exhibited. Two extensive excavations were made in the north-east and north-west corner of this courtyard of monastery No. 4 a few years back. As, however, no minor antiquities were recovered here, nor did there appear to be any promise of them, the excavation was filled in again and no further clearance of the courtyard was attempted. It has been nearly always the monks' cells and the verandah fronting them that have yielded the minor antiquities recovered at Nālandā.

Monastery Site No. 6.

Monastery Site No. 6 contains in itself two levels of occupation, an upper one coincident with the Deva-Pāla stratum and a lower or pre-Deva-Pāla stratum. The Deva-Pāla structure had been exposed over the whole area of the monastery by the previous year, and now the north half of the monastery area has been further excavated to reveal the earlier structure below (Pl. XXXV, *c*, *d*). This further excavation has embraced the north verandah and the north halves of the east and west verandahs adjoining it, together with the cells contiguous to them, and also the north half of the central courtyard. The courtyard, like its later fellow above, was brick-paved; and the floors of the earlier cells and verandah were of concrete.

In this earlier courtyard, in front of the main east sanctum, were revealed the remains of a low wide *chabutra,* decorated with a series of squat pilasters between its plinth and cornice mouldings. Built into the centre of the *chabutra* were some wide steps, by which it was ascended from a low "moonstone" pavement in front. The remains of a subsidiary shrine also were uncovered in the middle of this half of the earlier courtyard, backing against the north parapet wall. It has a low *chabutra* in front of it; and on these remains were afterwards erected a similar but slightly smaller shrine when the Deva-Pāla monastery was built. In the north-west corner of the courtyard is a well, and a smaller *chabutra* forming part of this was also revealed at this earlier level. In this north half of the site, just below the floor of the later verandah, some chanelled structures suggestive of long cooking *chulhas* were exposed; and on the floor of the earlier vernandah below were found others of the same kind, together with some long low *chabutra,* whose special purpose, if they had any, is not apparent. The entrance hall and vestibule on the west side of the monastery have also been cut through to expose the earlier structure over the north half, the Deva-Pāla structure being left in the corresponding south half. In exposing the earlier brick-paved courtyard no sign of any original drain to carry away the rain water from it was forthcoming, though such provision was made for the later courtyard above, an original drain being exposed in the north-east corner that carried the water through a cell in the east side of the monastery out to the rear façade.

MONASTERY SITE No. 7.

MONASTERY SITE No. 7, which is next in the range, appears to contain three main structures according to the indications afforded by a wall revealed in a pit sunk into the south verandah down to the bottommost foundations; though four, or perhaps even five, pavement levels relating to these different walls seem to be indicated in the centre courtyard. Of the three main structures, the middle one is apparently coincident with the Deva-Pāla stratum. A plan of the topmost monastery exposed appears in Pl. XXXIV. The topmost structure was found remarkably close to the ground surface, its concrete-paved courtyard being not much more than a foot below, and this was cleared in the previous year as stated in the last report (Pl. XXXV, *a*, *b*). In the year under review the excavation was carried down to the next or Deva-Pāla stratum in all the cells on all the four sides of the monastery and again in the verandah in front of them on the south side. The southern half of the centre courtyard has been cleared down to an intermediate level as revealed by the foundations of some ruined subsidiary structures here. This has been done provisionally, the scheme for exposing a portion of each of the main levels having yet to be settled.

The south half of the main shrine in the centre of the east side of the monastery at the topmost level has also been excavated down to the earliest foundation. The excavation here had to be carried through solid laid brick hearting, and towards the bottom of the pit were found a considerable number of large stones which, however, appear to be merely part of the foundation. They were an unusual feature and their position suggested a possible relic chamber, but nothing in the nature of relics was found among them. That they were merely used to supplement the foundation is also indicated by the find of a number of similar stones collected together in the south-east corner of the courtyard near by at the subsidiary level mentioned above. Apparently these were material left over from the works. The margin of some thirty feet, that had been cleared last year along the entrance front of the monastery range, up to the end of Monastery No. 6, was extended up to the entrance hall of the Monastery No. 7.

A description of some of the interesting antiquities found at Nālandā is given under the Section 'Museums'.

Two plots of land were acquired at Nālandā at a cost of Rs. 911-11. Of these one is intended for the construction of an approach road to the Nālandā site, in continuation of the District Board Road, and the other for affording free access to a large lake which is being used for dumping spoil earth from the excavations.

EXCAVATIONS IN BENGAL.

By Mr. K. N. Dikshit.

The systematic exploration of the ancient sites of Bengal, which first commenced with the excavation of the Paharpur temple in 1922-23 and has been annually carried on since 1925-26, was this year extended to two more sites, *viz.*, MAHĀSTHĀN in Bogra District and Rāṅgāmāṭi in Murshidabad District. Of

the various ancient divisions of Bengal, the two that occur most frequently in literature and persist almost to the present day, are Rāḍha (or South-West Bengal, corresponding to Hooghly, Burdwan, Birbhum and part of Murshidabad District) and Varendra (or North Bengal, corresponding roughly to the Rajshahi Division). The third main division, *viz.*, Vaṅga (or South-East Bengal) originally referring to the latest alluvial formation around the delta of the Ganges and the Brahmaputra, has gradually come to denote the entire province. By far the largest number of ancient sites in Bengal are, however, concentrated in the first two regions where the hard red laterite soil provided a firmer base for man's earlier settlement than the soft low deltaic plains, and it is to them that the spade of the archæologist must turn for direct evidence, in respect of the earliest material culture of Bengal. The trial excavations of the year aimed at the preliminary examination of the two sites, one in the Varendra, the other in the Rāḍha country, which were believed to be typical of each tract and as promising as any other site in their respective regions.

Mahāsthān.

The principal centre of the year's activities was the site of Mahāsthān or Mahāsthāngarh, 7 or 8 miles north of the headquarters of the Bogra District. The ruins here consist of an oblong plateau or the *garh* proper, occupying an area about 5,000′ long from north to south and 4,000′ from east to west with an average elevation of 15′ above the low lands around. Besides this, isolated mounds occur at various places within a radius of 4 miles on all sides, except on the east, in which direction the once mighty river Karatoyā defined the limit of the city's expansion and at the same time did duty as its invulnerable line of defence. To mention only a few of the most promising sites for excavation in the neighbourhood; the 'Meḍh' at Gokul, 1 mile south of Mahāsthān, Skander Dhāp at Bāghopārā, 2 miles to the south, the extensive Bhāsu Bihār site, 3 miles north-west of Mahāsthān, the Balāi Dhāp and Kānāi Dhāp, at Āntobālā and the Maṅgalnāth Dhāp at Tengra, 3 miles to the west, are some of the mounds where discoveries of coins, stone sculptures, images and structures have been reported at various times. The extent of the ancient city with its suburbs is unequalled by any other ancient site in Bengal (the site of Bāngarh in Dinajpur District being a good second) and can stand comparison with the ruins of ancient cities in other Gangetic provinces, such as Basāṛh, Saheṭh-Maheṭh and Kosām. The ruins were first described by Buchanan Hamilton[1] and since then by O'Donell, Beveridge, Cunningham and others. The identification of Mahāsthān with the ancient city of Puṇḍravardhana, the capital of the Varendra country or North Bengal, was first proposed by General Cunningham. This view subsequently received corroboration from a metrical Sanskrit work (of about 12-13th century A.D.), the *Karatoyā-Māhātmya*. The latter work purports to illustrate the great sanctity of the river Karatoyā and refers to Mahāsthān on its bank as the *Pauṇḍrakshetra* (the holy place of the Pauṇḍra country), and the *Pauṇḍranagara* (the city of Pauṇḍra) where the god Vishṇu is said to find a permanent abode. It is

[1] Martin, *Eastern India*, Vol. II, p. 609.

clear from the *Māhātmya* that about the time of the Muhammadan conquest, Mahāsthān or *Pauṇḍrakshetra* held a great reputation for sanctity, which has still been kept up to the present day by the periodical bathing-fairs held there along the banks of the river and believed to be the most widely attended in North Bengal. The present trial excavation by bringing to light extensive remains of religions structures of the Pāla period, confirms the existence of a great centre of the Brahmanical religion from about 8th century A.D.; but insufficient investigation of the earlier strata does not permit of any contribution to the problem of the identification of Puṇḍravardhana.

The highest mound within the enclosure of the plateau of Mahāsthān is that at the south-east corner occupied by the tomb of Shāh Sultān Māhiswār which is a regular place of pilgrimage among the local Muhammadans and thus closed to all future attempts of excavation. The ramparts here rise to a height of about 40′ but as one proceeds northward they gradually diminish in height. Three mounds to the north of this tomb, *viz.*, Khodā Pāthar, Mankali's mound and Parasurām's palace mound, have been partially explored by private persons, the only discovery worth mention being that of a stone lintel, with three figures of Dhyāni-Buddhas in recesses, which Mr. J. N. Gupta found at the first named place. The western half of the plateau has no high mounds and is largely covered with big trees and modern hamlets. The only mound on the *garh* that seemed to have escaped the attention of previous explorers is that locally known as the BAIRĀGI BHIṬĀ in the north-east sector and it was here that several acres of land were temporarily acquired for the preliminary excavations this year. Beyond the walled city and abutting on the river bank at the north-east corner of the *garh* rises the isolated mound known as GOVINDA BHIṬĀ where the camp was located and to which the operations were extended later in the season. A portion of the eastern city wall together with the out-works of a bastion that stood at a re-entrant angle of the wall, known as MUNIR GHON was also exposed during the year.

The operations commenced with the digging of two trial trenches running north and south from the edge of the northern rampart wall to the base of the BAIRĀGĪ BHIṬĀ for a distance of about 250 feet, with another trench crossing them at right angles. The surface of the ground here, almost level, was thickly strewn with broken pottery, brick-bats and terracotta fragments, which led to the expectation that the general floor level of any dwellings that may lie underground was not far below. A couple of ring-wells and bits of wallings made of brick measuring 10″ × $8\frac{1}{2}$″ × $1\frac{1}{2}$″ were the only structural remains discovered in the eastern trench at a depth of 3′ from the surface but it was clear that the earlier and more important buildings were still lower down. The appearance of subsoil water at a depth of 5′ from the surface, however, rendered it difficult to proceed with the examination of the lower strata. The remains of a floor with two parallel covered drains (7″ to 8″ wide) underneath, in the western one of the two trenches, at a depth of 3′ from the surface, show that the general floor level of the period was 3′ below the present surface. A number of antiquities including beads of carnelian and chalcedony, terracotta toy figures and pottery vessels found in

these trenches can be assigned to the Pāla period, roughly 9th-10th century A.D. As no further work in this area was possible owing to mud, the trenches were extended to the Bairāgī Bhiṭā further south. The top of the Bairāgī Bhiṭā is the highest point in the north-east portion within the city walls. It is a roughly quadrilateral mound (about 300′ × 260′) with a flattened top and is about 10′ higher than the surrounding level, dropping abruptly at the north-west corner, but with gentle slopes on all other sides. Trenches were laid in different directions at the outer periphery of the mound and towards its centre. The main discovery in the Bairāgi Bhiṭā is that of the remains of two huge but fragmentary temples, which may be assigned to the early and late Pāla epochs respectively, and a number of subsidiary structures in the open court to the north. Taking the temple area first, the earlier temple referred to above measures 98′ from east to west, the present distance from north to south which must be about half of the original breadth, being 42′. No other details of the temple have survived, except the basement of the plinth on the north and east, the southern half being entirely superseded and obliterated by the later temple erected on the same site. The basement had a torus and two plain mouldings which run along the whole side. The two existing corners on the north-east and north-west have recessed angles on plan, which may indicate the existence of subsidiary shrines (Pl. XXXVI, *b*). The sanctum must be located in the centre close to the head of the masonry drain which, running 36′ north and south almost bisects the length of the temple and empties itself within 5′ of the plinth into a soak-jar with earthenware rings at bottom (Pl. XXXVII, *a*). This drain which must have carried libation water from the shrine is of exceptional interest, as its length is made up for the most part of stones utilised from earlier structures and partly of brick masonry. Besides the stone piece at the discharge end, the two stones at the head of the drain are rectangular basalt pillars scooped out to a depth of 5″, and placed lengthwise so as to form a channel, 29′ long and 8″ wide (Pl. XL, *b*). The sides of the pillars exhibit the square sections with chamfered corners, the half-lotus medallions and the *Kīrttimukha* and scroll-work mouldings in low relief in the characteristic style of pillar decoration of the late Gupta period 6th-7th century A.D. (Pl. XL, *d*). It can, therefore, be scarcely doubted that the builders of the temple who must have availed themselves of the materials of older ruined structures in the neighbourhood lived at least two centuries later, that is, in the 8th-9th centuries A.D. when Bengal was enjoying again the blessings of a stable Government under the early Pālas after the century-long spell of anarchy. The poverty of conception and design of the Pāla craftsmen is accentuated almost everywhere on the excavated sites of Mahāsthān in their free use of older materials, such as ornamental bricks, stone pillars, etc., for purposes much inferior to those intended by the original Gupta builders. Thus having no use for stray ornamental bricks originally laid in regular courses of base mouldings, they utilised these in their ashlar brick courses; and the pillars and lintels undoubtedly employed in the pretty little *Maṇḍapas* and doorways of earlier temples could only be used by the later builders for drains to carry away their water or improvised as steps in their astylar construction.

The temple of the early Pāla period at Bairāgi Bhiṭā was subsequently abandoned and superseded by another built over it at a short distance to the south some time about the 11th century A. D. Like its predecessor, it stretched east and west being 111′ in length from end to end, while its breadth from north to south was only 57′. The mutilated character of the remains does not permit of much speculation regarding the plan and internal arrangements, but the existence of a porch in the middle of the northern side can be surmised from some exquisitely chiselled pillar bases and stone door-jambs with dowel marks. At the eastern end of the temple, were exhumed the remains of an inclined platform paved with brick-tiles running along the entire edge of the temple, the purpose of which could only be connected with ablutions. It was divided into compartments or panels each measuring 3′ 9″×3′ 6″ and each demarcated by two lines of brick-on-edge masonry (Pl. XXXVI, *a*). Excluding the corner panels divided diagonally by brick-on-edge work, 14 such panels have been found on the east, 6 on the north and 3 on the south. There is a passage 3′ 9″ wide along the interior which provided the bathers access to the top of the platform. The floor level of the later temple has been found to be made up of 6″ of concrete over a course of flat bricks, and is about 2′ higher than the floor of the earlier temple. The earlier libation drain was covered up with brick-work in this period and it is clear from the sinkage of the masonry over the soak-pit that sufficient care was not taken before laying the foundations of the new work. A fragmentary corridor in the centre of the north side lined with bricks-on-edge, a cell beyond, measuring inside 19′×18′ and certain wallings on the east running to a length of 56′ and a brick-on-edge platform to the south of the later temple can also be relegated to this period. A peculiar class of structures of the same period, are the *kuṇḍas* or reservoirs built with regularly paved bricks and lined with one or two rows of slanting bricks-on-edge, of which at least 5 are found on the Bairāgī Bhiṭā. The largest of these *kuṇḍas* is the rectangular one at the north-east corner of the site, which measures 10′×5′; another smaller but neater specimen (7′ 5″×5′) is just over the plinth of the early Pāla temple and a circular reservoir (diam. 5′ 9″×5′, depth 2′) built of 9″ long bricks in the northern area of the Bairāgī Bhiṭā can also be included in the same category. There can scarcely be any doubt that all these were connected with religious practices, either in the nature of sacrifices or libations more probably the former.

In the northern area of the Bairāgī Bhiṭā, very few structures of the Pāla period have been recovered in good condition except the compound wall and a few cells on the north and a shrine with a square brick platform on the south-west and contiguous to it, a row of oblong rooms. The whole area seems to have been used as an extensive open courtyard attached to the great temple on the south. The compound wall 3′ broad running for a length of 175′ along the northern border of the courtyard, is a bit of rough rubble masonry, built of old brickbats. It was apparently intended to do duty more as a retaining wall than a compound wall, and was subsequently supplemented by another walling at the eastern extremity, where it had a serious bulge, as all the water inside the courtyard probably found its way out on this side. The only complete structures

found inside the enclosure wall on this side are two small cells, of which the more complete one measures only 4'×3' 6", though the walls are substantial (2' 6" thick). The floor level of these cells is about 5' lower than the courtyard level of the late Pāla period and the bricks used in their construction show a free use of 15" long Gupta bricks along with later bricks of smaller sizes, thus indicating that they may date from about 8th-9th century A.D. A similar age may be assigned to the shrine in the north-west where a brick platform 8' square (Pl. XXXVII, *b*) surrounded by a passage 2' 3" wide, has been exhumed. At a later period the passage was bricked up, and a number of chambers were added, of which a row of five, each measuring 21' in length and 7' to 8' in width, has been brought to light to the north of the platform. Some more walls undoubtedly belonging to cells can also be traced on the east, but they are too fragmentary to give any connected idea of the plan of buildings in this area.

At least seven trial pits were dug in various parts of the Bairāgī Bhiṭā mound, with a view to ascertain the nature of the stratifications that lay beneath the superficial structures of the Pāla period. Of these, five were in the courtyard area, one inside the chamber to the north of the stone drain and one in the heart of the later temple, further south. In almost each case, the trial pits have disclosed the existence of remains of at least two periods underlying the floor levels of the early Pāla buildings, which may conveniently be termed early and late Gupta. In places, the remains of the early Gupta period have been found deep down the pits. Thus in the first pit on the north the foundations of a complete room occur 15' below the latest level of the Pāla period, but the structures are in a comparatively good state of preservation, and small antiquities such as beads, terracotta toys, etc., are more plentiful than elsewhere. In other pits, late and early Gupta floors and wallings have been found in a more fragmentary state of preservation at depths varying from 6' to 8' and 9' to 12' respectively below the latest floor levels. In one of the courtyard pits, arrangements for fixing the hinges of door leaves are clearly seen in semi-circular notches in the wall on either side of a doorway. The bricks used in the earliest structures, as a rule, measure 14" to 15"×10" to 11"×2"; while those in the later Gupta ones are smaller in dimensions by two to three inches. The excessive accumulation of *débris* between the Pāla and Gupta levels, which renders the examination of pre-Gupta remains at this site practically impossible, must have been due to the insecure conditions of life at this place during the century-long anarchy (roughly 650 to 750 A.D.) when the prosperity of the city seems to have received a serious setback from the effects of which it never sufficiently recovered.

In order to lay bare the nature of the remains in the southern part of the temporarily acquired portion of Mahāsthāngarh, the lines of another trench over 300' long from east to west were laid out in the plain area to the south-east of Bairāgī Bhiṭā mound. Two important structures were located in this area, a temple at the extreme west, assignable to the 10th-11th century A.D. (Pl. XXXVII, *c*) and a solid square platform in the centre with number of ring-wells around (Pl. XXXVIII, *a*). At the eastern end, were also discovered a number of

ring wells connected with some wallings of the latest period, so close together that it is rather difficult to comprehend their purpose (Pl. XXXVIII, *b*).

The temple in its present form is an oblong building 39′ 6″ ×34′, with the plinth rising 5′ above the level of the old street, access to which was provided by five masonry steps all of which are flagged with stones, mostly lintels and pillars from older buildings. The first step from the top is made up of a basalt stone lintel, containing a row of *Kīrttimukha* heads emitting garlands of pearls, in the characteristic style of about the 7th to 8th century (Pl. XXXVII, *d*). A number of carved bricks with ornamentations of the Paharpur pattern are also built in the walls of the temple. There can therefore be little doubt that the construction of this temple dates from about the 9th to 10th century A.D. In plan, the original temple here which measured 24′ by 32′ must have consisted of a central hall with a passage around, but at least two periods of repairs and additions, most probably separated by short intervals, can be made out from the extant remains, in course of which, a verandah was added on the south, a buttress wall built on the north with deeper foundations than those of the original wall, the floor level raised by 1′ 6″ and a flight of stairs added on the east, with additional rooms on each flank. A brick-paved altar measuring 3′×2′ 3″ in the original eastern wall is the only structure now left above the plinth level and it is difficult to ascertain more about the nature of the workship conducted here. Other interesting finds in the vicinity of this temple are a platform with fine-jointed masonry and a ring-well on the south. A number of pillars and other architectural stones of about the 9th to 10th century A.D., were found laid on the ground parallel to the temple wall and 10′ away, probably lining the edge of a depression or pond on the other side of the lane. It is clear that the level of this lane in the 10th-11th centuries, was 5′ below the present ground level. In course of arrangements for the drainage of this area, a net-work of walls were exposed to the north-east of the temple at a depth of 9′ to 12′ from the surface, which from the nature of the antiquities unearthed in them, can be assigned to the Gupta period. Until however regular excavations are resumed at this place, the connection between the cells of the Gupta period and the later remains unearthed this year will remain obscure.

Over a hundred feet to the east of the temple was exhumed a solid brick platform 19′ square and 9′ in height. It is built of bricks measuring 12″ to 14″ by 10″ by 2½″, which indicate about the 8th to 9th century as the probable age of the structure. A shaft sunk through the centre below the level of the foundations disclosed no relics. In the immediate vicinity of the platform, at least five ring-wells were unearthed, all of about 3′ diameter, and some with fluted rings at the top.

The nature of the city wall and its bastions was ascertained by operations carried on at a high jungle-covered mound at one of the re-entrant angles of the eastern wall, locally known as MUNIR GHON (Pl. XXXVI, *c*) situated not far from Śilādevī's *ghāt*, the centre of the bathing festival. The main city wall here was found to be standing at least 10′ in height and no less than 11′ in thickness, of which about 2′ on either face was brickwork and the core made up of

brickbats. The construction of the present wall can undoubtedly be attributed to the Pāla period, as the bricks used measure 8″ to 9″ in length and 5″ to 6″ in breadth and 2″ in thickness. The general direction of the wall is north to south, but here it turns to the west for a distance of 100′ and again resumes its course to the north. The outworks at the re-entrant angular projection consisted of two semi-circular bastions, both of which were later included within a superficial outer casing of brick-work (Pl. XXXVI, *d*). The floor of the original bastions is 6′ higher than the earliest floor found at the bottom of the city wall, which shows that the bastions were erected at a later date. The structure was probably intended to serve as a watch-tower to guard the bank of the river Karatoyā which flowed along the foot of the city walls. A sloping rivetment of brick pitching was provided on the northern side of the bastion before the construction of the walls, against which there was in due course considerable accumulation of river silt. Eventually part of the bastion on the north side gave way before the current of the river striking against the walls. The height of the bastions was therefore raised by mud and brick fillings, the damaged walls were rebuilt and a new floor set up at a height of 4′ above the original floor of the bastions. At about the same time, a terrace was constructed along the inner side of the wall evidently for providing access from the interior to the outworks of the bastion.

The most imposing structure excavated during the year at Mahāsthān is the huge temple (Pl. XXXIX, *a*) at the Govinda Bhiṭā mound. The flat top of this mound rises to a height of over 20′ above the surrounding level (Pl. XXXVIII, *c*). Its commanding situation within a double bend of the river, which it overlooks on the east and north, at once marks it out as an important site. Tradition identifies it as the temple of Govinda or Vishṇu, which marks the northern limit of the holy city, according to the *Karatoyā-māhātmya*. There is nothing in the excavated remains, however, to confirm the Vaishṇavite character of the temple. The mound consists of two parts, of which the southern part about 10′ lower than the summit was used as the camping ground and the northern terrace extending over 160′ from east to west and 130′ from north to south, was excavated this year. The excavated structures can be relegated at least to four periods of construction commencing from the late Gupta epoch (6th to 7th century A.D.) to the Muhammadan occupation. The operations commenced with the uncovering of the huge enclosure wall 6′ thick on the west, south and north and were gradually extended eastwards. Only the western side of this wall (114′ long) is in good preservation and stands to a height of 8′ to 11′ (Pl. XXXVIII, *d*). The unevenness of the ground before the construction of the wall is indicated by the fact that the foundations at the north-west corner are several feet lower than at the south-west (Pl. XL, *a*). After proceeding for a distance of about 80′ from its western end the south enclosure wall dwindles down until it can no longer be traced. The north wall also discontinues its course at the eastern end after running for a length of 78′, the destructive agency in this case being presumably the erosive action of the river. The ground level contemporary with the enclosure wall is indicated by brick-on-edge pavements

at several places. The area inside the enclosure wall appears to have been occupied by two sets of buildings which can be conveniently designated as the eastern and western. At least two periods of occupation of the site are discernible in the western structure, the earlier of which is at present represented by the massive western wall, of fine masonry built of 15″ long bricks, with foundations reaching in 16 offsets to a depth of 11′ below the outer enclosure wall (Pl. XXXIX, *c*) strongly resembling in fabric the basement wall of the main temple at Pāhārpur. In the centre of this wall, which runs parallel to and at a distance of 6′ from the western enclosure wall, was found a porch 30′ in length, projecting 5′ from the face of the wall and standing in close proximity to the compound wall which could not thus have been erected until the porch had fallen in disuse. The fine chamfered brick mouldings of the corner of this porch of the earlier temple corroborate the view that it dates from the 6th to 7th century A.D. and is thus coeval with the Pāhārpur temple. The enclosure wall and the later structures at this site may be assigned to the early Pāla period (8th to 9th century A.D.). At this time, a new porch of the same width as the earlier but 4′ short of its frontage, was laid over the older one, the outer enclosure wall was constructed and an elaborate high-terraced structure was reared up in the centre, after raising the level of the plinth by several feet. The central walls of the upper terrace are connected on the exterior with a series of parallel walls by means of short cross-walls thus forming an outer row of compartments in the foundation. Similarly in the interior, a row of five superficial cells on each side (except east) were found arranged around a solid brick platform, which must also be taken to be foundations for the superstructure. In three of the cells ring-wells have been found, of which only one may have gone down to the level of water, while the rest were superficial. The terraced top seems to have been in occupation till the Muhammadan conquest, as two mutilated stone images representing the goddess Chaṇḍī (Pl. XLII, *e*) and dancing Gaṇeśa dateable to the 11th century A.D. were discovered in a mutilated condition outside the enclosure wall on the north-west and north respectively, apparently being thrown away from the top. A later brick pavement of the Muhammadan period covers a portion of the terrace top.

The remains on the eastern side of the Gobinda Bhiṭā lend themselves easily to classification according to the four strata in which they are found. A fragmentary pavement just at the top of the mound is undoubtedly to be attributed to the Muhammadan period, as associated with it in an earthen pot, were found 18 coins issued by the Independent Bengal Sultans from Iliās Shah (1357 A.D.). to S̲hamsuddīn Yūsuf Shah (*circa*, 1480 A.D.). They must have been buried some time about the end of the fifteenth century A.D. The next lower stratum is represented by a few walls of inferior brickwork of no great depth, in which a small semi-circular wall, probably a fire-place is noticeable. The buildings in the third layer are roughly contemporary with the later terraced temple on the west side and must have been encompassed within the outer enclosure wall built at this period. The earliest structure at this site is the temple of which the basement built of fine brickwork with several courses of offsets and

a half-round moulding (Pl. XXXIX, *d*) was found 6′ below the present surface and the foundations descend to another 8′. This temple must be contemporary with the earlier western temple, but the connection between the two is yet obscure as the eastern face of the latter has not been uncovered. The basement walls of the eastern temple measure externally 56′ each way, thus forming an exact square. In the centre of the temple is a dais measuring 6′ 6″ ×5′ 6″ apparently the seat of the deity, surrounded by a procession path about 3′ to 4′ wide. The eastern part of this temple including the eastern wall seems to have been washed away by the river, and elaborate precautions were taken by the successive builders of the later periods to ward off the danger of erosion. A stone revetment wall originally running for a distance of over 150′ in the river bed along the north side of the mound, and a stone *ghāt* or landing stage on the east, which were exposed by previous explorers were carried away by the floods of 1922. The present excavations have laid bare a complex of walls higher up on the surface of the mound, including an outer wall with a number of footings and a semi-circular retaining wall that may be assigned to the early Pāla period (Pl. XXXIX, *b*). The interior of the shrine was at this period divided into cells by 18″ thick partition walls, there being originally 5 cells on each side, of which the entire eastern row and the adjoining cells on the north and south seem to have been washed away and are now missing (Pl. XL, *c*). The stone pedestal (polygonal in plan) in the foreground of the plate belongs to this period and the drain to the right, marks the level of the floor.

The antiquities registered from the different sites at Mahāsthān number 665, which is a relatively small number, considering the extent of the area explored. The best small antiquity of the season was a fragmentary potsherd bearing in low relief a scene in which a man riding on a chariot drawn by 4 horses is depicted as discharging an arrow at a herd of deer (Pl. XLII, *b*) and a centaur. The relief recalls to mind the well-known terracotta plaque from Bhiṭā [1] and must date back to the early centuries of the Christian era. Apart from this isolated find, all the best specimens of terracotta plaques, toy figures and animals, ornamental bricks, stone beads and pottery (Pls. XLI, *a*, *b*, *d*, and XLII, *a*, *c*) are associated with the late Gupta period. Attention may be drawn to the striking variety of designs of brick ornamentation (Pl. XLI, *e*. *f*) in which the chevron, chess-board, dentil, cross-petal and inverted pyramid patterns predominate. Over a dozen terracotta plaques similar in execution to the Pāhārpur examples were found in the temple sites, the pot-bellied Yaksha plaque (Pl. XLII, *d*) being a typical example. The fragment of the figure of a mother and child in terracotta, tiny rattles in the shape of a tortoise and a bird and a miniature vase with lotus-leaf decoration are other finds worth mention. Only one uninscribed clay seal with the effigy of a bull facing an elephant was found. The fragment of a gold ear-ring (Pl. XLI, *c*) found in a small jar in the courtyard of the Bairāgī Bhiṭā is of early Pāla date. The Chaṇḍī image from Govinda Bhiṭā (Pl. XLII, *e*) is a typical example of 11th century art. Here only a hand and feet of the main

[1] *A. S. I.*, 1911-12, Pl. XXIV.

figure survive but the figures of Kārttikeya and Gaṇeśa, the couchant lion, the pair of gazelles and the plantain trees that go to form the retinue of Chaṇḍī according to the canons, are treated with the characteristic finish and elegance of the late Pāla school.

The results of the excavations at Mahāsthān may be briefly summarised as follows: (1) that the city site was in full occupation from early Gupta times and must have been founded several centuries earlier, (2) that massive brick temples were built in the late Gupta period at the Govinda Bhiṭā site, (3) that the construction of the present surrounding walls of the city and many of the structures lying near the surface within and outside the city, must be attributed to the early Pāla period, (4) that the proportion of secular buildings appears to have dwindled down after the town of the late Gupta period fell into ruins, (5) that the early Pāla builders largely utilised for their own purposes the older brick and stone materials from earlier ruins, (6) that the prevailing religion of the inhabitants was Brahmanical, and (7) that although the identification of the place with the city of Puṇḍranagarȧ is not proved in the absence of any epigraphical material, it is probable that the thorough exploration of the Gupta city lying buried several feet beneath the present surface may throw definite light on the problem.

Pāhārpur.

The excavations at Pāhārpur, which were conducted continuously throughout the last three seasons and have contributed so largely to the elucidation of the ancient culture of Bengal, were kept in abeyance almost throughout the year owing to the pre-occupations at Mahāsthān and Rāṅgāmāṭi. A small grant of Rs. 1,000 in the last month of the financial year was however utilised for exposing a number of structures on the eastern and western area. Besides the central temple of which the plan and superstructure have already been exposed, portions of the surrounding monastery on the north, south and south-west have also been excavated. The present season's attempt was confined to a superficial examination of the structures in the enclosure of mounds to the east and west of the main temple. An area of over 300′ in length and 50′ in breadth was examined in the eastern ramparts and another over 100′ long in the west. The structures unearthed in the eastern area consist of almost square-shaped cells, each measuring 14′×13′ 6″ opening on to a verandah inside and another open platform on the east probably providing access from outside (Pl. XLIII, *a*). A special feature of these cells is the existence of ornate brick pedestals close to the back wall of the rooms, which must have been used for installing images. Out of 15 rooms brought to light this year, no less than 7 contain these pedestals which are 6′ to 8′ in length and 4′ 6″ or more in depth (Pl. XLIII, *b*). The recessed corners of the pedestals are in keeping with the style of pedestals of images of the period to which they belong (10th to 11th century A.D.). Only one of the chambers on the north side of the monastery excavated last year exhibit this feature, and two more in the south-west sector excavated in 1922-23. It is yet premature to suggest that the entire eastern wing of the quadrangle

was devoted to the private worship of images, while the northern section served as living rooms or dormitories. The inward splay of the doorways and the thickness of the front walls as compared with the back walls are other noteworthy features of the rooms. A large hall (34′ square) the interior of which has not yet been cleared with an altar or *vedī* on the east side was also found just within the courtyard close to the eastern rooms. In the central portion of the western rampart area, were laid bare the outlines of a shrine 57′ from east to west and 66′ from north to south, with angular projections in front similar in plan to those of the main temple. The stone gargoyle and row of plaques found on the north side of the shrine (Pl. XLIII, *c*) show that the scheme of decoration adopted in this miniature shrine was copied from the main temple.

The only finds worth mention are those of a mutilated stone torso of a fully ornamented Bodhisattva, dating back from the 11th to 12th century, distinguished by embroidered drapery and a miniature bronze image of Kubera, found in the excavation of the eastern chambers.

The results of the excavation may be summed up thus :—(1) that the central portion of the eastern row of cloisters surrounding the main temple was occupied by shrines or chapels in the last period, *i.e.*, 11th to 12th century A.D., and (2) that the centre of the west side of the quadrangle was occupied by a temple of which the basement was planned and decorated after the main temple.

Murshidabad District.

The antiquities of the Northern Rāḍha country, which embraces the western half of the District of Murshidabad on the right bank of the Bhāgīrathī and the adjoining parts of Birbhum District, have not so far received the attention they deserved. Several inscriptions, stone and bronze images representing Brahmanical and Buddhist deities and architectural remains such as that of the Śiva temple with the colossal *linga* at Chandanbāṭī brought to light during recent years, serve to illustrate the important part played by this tract during the last Pāla period (10th and 11th centuries A.D.). This year, a site named Gītagrām in the Kāndi Sub-Division of Murshidabad was brought to the notice of scholars by the discovery of a number of antiquities of the Gupta and earlier periods, including clay seals, stone beads, terracottas and rectangular cast coins. On personal inspection, the Gītagrām mound was found to be unsuitable for protection under the Act, but the closer investigation of the problem raised by the finds revealed the existence of a continuous chain of ancient sites now represented by mounds in the Kāndi Sub-Division of the Murshidabad District, extending from Sālār and Gītagrām in the south through Pāñchthubi to Mahīpāl in the north. The extension of cultivation in these localities is gradually reducing some of the low mounds to the level of the fields, but the occasional finds made by the cultivators serve to indicate the antiquity of the sites. All such finds are generally thrown away or consigned to oblivion, but the stone beads of variegated colours and designs appear to catch the fancy of the Muhammadan cultivators, who string them into rosaries for religious use. Several such collections of beads were obtained for inspection at different villages. A typical rosary of such

beads obtained from Chunsār, 2 miles from Sālār and said to have been found in an ancient mound now almost indistinguishable from the fields, contains 60 stone beads of a variety of shapes, colours and designs, undoubtedly indicative of an early age (Pl. XLIV, *a*).

The site of Rāngāmāṭi, situated picturesquely on the west bank of the Bhāgīrathī, 6 miles below Berhampur, was one of the first in the Rāḍha country to attract the attention of scholars. Its huge red bluffs, rising 40′ to 50′ high above the ordinary level of the river, form a conspicuous landmark for miles around and the occasional finds of pottery, stones, even gold coins of the late Gupta period exposed among the remains of walls and floors on the battered edges of the cliffs, have made the place familiar to the treasure hunter. A large portion of the ancient city spread along the banks of the river for at least half a mile has been washed away, but sufficient traces are available to show that it extended for a mile to the west. The two conspicuous mounds in the locality are the *Rākshasī Dāṅgā* or Devil's mound and Rājā Karṇa's palace, the former being higher and the latter more extensive of the two. The excavation of this site was suggested by Mr. Beveridge, who first proposed the identification of the place with ancient Karṇasuvarṇa, close to which was the *Rakta-mṛittikā*-vihāra, referred to in Hiuen Tsang's account. The trial excavations conducted late in the season at the Devil's mound brought to light the remains of structures of at least three periods, the lowest of which appears to be a Buddhist establishment of the 6th to 7th century A.D., but no definite confirmation is available about its identity with the Karṇasuvarṇa Vihāra. The mound has a circumference of about 700′ and rises to the height of about 25′ above the level of the surrounding rice fields. The eastern part of the mound is occupied by the tomb and *ard-ghar* of a Muhammadan saint around whom local tradition, as usual, weaves a web of fantastic legends. A number of trenches were sunk across the rest of the mound in all directions, some being carried to the depth of 18′. The remains in the superficial strata exposed within the first 6′ were isolated fragments of pavements and brick walls apparently of a late age and quite unconnected with a number of earlier stucco and terracotta heads and other ornamental pieces, which were found at the same level. The disturbance of the site by brick-diggers and treasure-seekers, who must have long prosecuted a systematic campaign of vandalism, has rendered the sequence of strata somewhat obscure. The filling up of the trenches after the bricks had been quarried is evident from the narrow funnel-shaped lines of *débris* in the sides of the new trenches, which in most cases correctly pointed out the position of the walls underneath. The more important structures at the site were uncovered at the depth of 9′ to 13′ from the top of the mound. The building, which from the solid masonry and the size of the bricks ($15\frac{1}{2}'' \times 10'' \times 2\frac{1}{2}''$) must be attributed to the 6th to 7th century A.D., has not yet been fully excavated, but the general plan seems to provide for a number of large chambers ranged on either side of a central thick wall. On the north-east, the remains of a long hall with a verandah have been exposed (Pl. XLIII, *d*) and in the south-west a complex of walls which it has not yet been found possible to connect together. The floor level of this

period is at a depth of about 12′-13′ from the top of the mound and the foundations of certain walls go down to a depth of 23′. Another season's work will be necessary to elucidate the connection between the different parts of the main structures exposed this year, although the importance of this site has been established by the finds of terracotta and stucco heads which unmistakeably point to the existence of a Buddhist establishment. The finds recovered during the excavations number 292, of which stucco fragments account for as many as 95. A distinctively Mahāyānist find is the fragment of a crown of a Bodhisattva in which the figure of a Dhyāni-Buddha Amitābha can be made out (Pl. XLIV, *f*). The stucco heads, of which at least 5 to 6 must be representations of Buddha, exhibit a striking variety of facial expressions which was lacking in the stucco examples from Pāhārpur. The repose and finish of all terracotta heads (Pl. XLIV, *b*) leave no doubt that they must be attributed to the late Gupta period. A number of terracotta toys and pottery (Pl. XLIV, *c-e*) are among the other noteworthy finds from Rāṅgāmāṭi. It is remarkable that a majority of the antiquities were found in the loose *dēbris* within 6 feet from the top of the mound, and several feet higher than the buildings with which they appear to be connected—a fact for which the vandalism of the brick-diggers and the disturbance of the soil during the later fillings must be held responsible.

To summarize briefly, the trial excavations at Rāṅgāmāṭi have proved (1) that the site of the Devil's mound was occupied by a Buddhist establishment, most probably a monastery in the 6th to 7th century A.D., (2) that after the destruction of the earlier building, the site was considerably raised before occupation during the mediaeval period, and (3) that the mound was the scene of extensive brick-quarrying activities, probably during modern times.

EXCAVATIONS AT NAGARJUNIKONDA.

By Mr. A. H. Longhurst.

In the Annual Report for 1927-28 (p. 115) mention has been made of the trial excavations around a large ruined stupa at NAGARJUNIKONDA, which is called *Mahāchaitya* or the "Great Stupa" in the inscriptions discovered on some pillars standing nearby. Further operations were carried on, within this Great Stupa, during the year under review and a number of important discoveries made.

Originally, the GREAT STUPA was a massive brick and plaster cupola resting on a drum or plinth 5 feet high and 102 feet in diameter. The whole of the upper portion of the dome has disappeared, the work of treasure-seekers and the hand of Time, but when complete, the monument could not have been less than 60 feet in height. It was encircled by a brick wall, probably about 5 feet high, enclosing a procession path (*pradakshina-patha*), 13 feet wide (Pl. XLV, *b*). Access to the sacred area within was afforded by four gateways, 14 feet wide, facing the four points of the compass. As only the foundations of the enclosure wall and gateways remain, it is impossible to determine exactly what they were like. But as no stone or stucco sculptures or ornamental mouldings were found during the excavations, we may conclude that, like the stupa itself, the

wall and gateways were plain brick and plaster structures with a few simple mouldings along the cornices and plinths. In simplicity of style, the Great stupa seems to have been similar in appearance to some of the stupas of about the same age existing in Ceylon. The top of the drum was probably provided with a terrace, 7 feet wide, encircling the base of the dome. On each of the four sides facing the gateways, the terrace projects so as to form a rectangular platform, 5 feet wide and 22 feet long. Set up in a row on each of these four platforms was a group of five lofty limestone pillars, thus making twenty pillars in all. Of these, only two pillars still stand erect, but the broken bases of the others remain *in situ*. It is on the lower portions of the shafts of these pillars that certain important inscriptions of the Ikshvāku dynasty were discovered in 1925. On plan (Pl. XLV, *a*), the monument is built in the form of a wheel, the "Wheel of the Law" or *Dharmachakra* symbol of the Buddhists. The spokes of the wheel are represented by brick walls radiating from the centre or hub of the structure the spaces between the walls being filled in with earth. In northern India, the stupas are usually solid structures of brick or stone and it is only in the South that these wheel-like stupas are found. The central portion of the Great Stupa had been destroyed from top to bottom, so that the chances of finding any relics appeared very remote indeed. Before, however, giving up all hope of their recovery, it was decided to excavate each chamber between the radiating walls and at last after a month's laborious digging, the relics were found in a broken earthenware pot on the floor of one of the outer chambers on the north side of the stupa. The pot was filled with hard red earth in which a few white crystal beads, embedded near the surface, sparkled in the sun like diamonds (Pl. XLVI, *b*). The relics, which, as stated below, were supposed to have been those of the Buddha himself, consist of a fragment of bone, the size of a pea, which was found inside a tiny round gold box, $\frac{3}{4}''$ in diameter. This again, together with a few gold flowers, pearls and garnets, was placed inside a small silver casket shaped like a miniature stupa, $2\frac{1}{2}''$ in height. The silver casket was found very much corroded and broken to pieces, the one shown in the illustration (Pl. XLVI, *c*) being a replica of the original. The pot containing this reliquary was buried in the chamber, which was filled in with earth, and finally, the great brick superstructure was erected over the spot.

The age of the Great Stupa enshrining these relics, may be determined from the inscriptions referred to above. They are in Brāhmī characters of about the third century A.D., and in a form of Prākṛit. From these records we learn that the Great Stupa contained the corporeal relics (*dhātu*) of the Buddha himself and was founded by a princess named Chāntisiri of the Ikshvāku dynasty which was ruling in the Āndhra country in the Kistna District during the second and third centuries A.D.[1] Similar corporeal remains of the Buddha, we know, were deposited in the large brick stupa at Bhaṭṭiprolu, a village in the same District. The Bhaṭṭiprolu deposits, as shown by the inscriptions engraved on the relic caskets found in the stupa, date back to about 200 B.C. We know

[1] Vogel: *Annual Bibliogr-phy of Indian Archæology* for 1926, pp. 14-16; *ibid*, 1927, pp. 11-14.

that the Great Stupas at Sāñchī, Sārnāth and Amarāvatī, were all rebuilt in later times, and it is possible that the same thing may have happened at Nagarjunikonda. The original stupa may have been a smaller structure erected about 200 B.C. and repaired and enlarged in the third century A.D. Be this as it may, there appears to be no doubt as to the authenticity of the relics deposited in the Great Stupa. At any rate, they were certainly believed to be genuine corporeal remains of the Buddha by those who built the stupa and recorded the fact on the groups of pillars adorning the four sides of the monument.

Excavations carried out in the years 1927-28 and 1928-29 at Nagarjunikonda have revealed the existence of three monasteries, six temples and several smaller stupas. The STUPAS were built of brick and a few of them were faced with limestone slabs bearing various representations in relief. These sculptures, of which examples are given in Pl. XLVII-L, are typical of the Amarāvatī school of art and have exceptional interest for students of Buddhist iconography. Some of the relief slabs depict a group of 5 pillars forming part of the construction of a stupa (Pl. XLVII). These represent the *āyaka*-pillars [1] mentioned in the inscriptions, in which they are stated to have been the gifts of pious Āndhra princesses. All the stupas at Nagarjunikonda of any importance were provided with these pillars, but it is only those of the Great Stupa which are inscribed. In a smaller stupa situated at a short distance to the south-west of the Great Stupa, four crudely carved *āyaka*-pillars like the one shown in Pl. XLVI, *a* were found. The stupa was demolished by vandals who smashed the pillars and flung the pieces far and wide, so that it is impossible to say for certain where these four decorated pillars originally stood. But as there are only four of them, it is reasonable to suppose that they stood in the centre of each of the four groups. In the sculptural representations of stupas (Pl. XLVII, *a*, *b*) the *āyaka*-pillars are portrayed surmounted by Buddhist ornaments, the central pillar usually by a miniature stupa. As a matter of fact, the rounded tops of these pillars were quite plain and could never have supported anything. The shafts are octagonal in section, and the eight facets terminate in the centre of the rounded crown of the pillar. The stupa symbol usually depicted surmounting the central *āyaka*-pillar, represents symbolically the "Death of the Buddha," and the figure carved on the base of the pillar shown in Pl. XLVI, *a*, represents the Buddha's "First Sermon," two of the most important events in the life of the Great Teacher.

Besides the stupas three large monasteries have been explored. Two of these (Nos. 1 and 2) are situated on a hill known locally as NĀHARALLABŌDU, and the third one (No. 3) stands on a hillock facing the river about one mile to the west of Nāharallabōdu. On plan, MONASTERY No. 1, consists of an open space, 64 feet square, surrounded by 24 cells for the monks. The central space was originally paved with stone flags and probably had a pillared hall of wooden construction in the centre. The cells are only 8 feet square and all face the centre. They are built of large bricks and were formerly plastered inside and

[1] The word (*āyaka-khaṁbha*), which evidently means 'entrance pillars', is used also in the Amarāvatī inscriptions. Lüders, *List of Brāhmī Inscriptions*, Nos. 1202, 1203, 1204.—Ed.

out. A few of the cells seem to have been used as shrines, store-rooms and kitchens. To the south of the monastery is an apsidal-ended *chaitya* now in ruins, for the use of the monks who lived in the adjacent monastery. It has been named Chaitya No. 2, and contains an important inscription incised on its stone paved floor.[1] The building measures 41½ feet in length and 18½ feet in width and had a small stone stupa, 5 feet in diameter, as the object of worship. Like the adjacent monastery, the walls are only a few feet above the ground level, the entire superstructure having disappeared.

On plan, MONASTERY No. 2, is similar to No. 1, but is more compact and better arranged. The central space had a stone paved hall, 40 feet square, with nine cells and two rooms on three sides, and two small *chaityas* on the fourth side. On the east side of the enclosure is an open yard which contained the refectory kitchen and store-rooms. The two *chaityas* face one another, and the one on the west side (Chaitya No. 3) contains a broken stone image of the Buddha, which must have been at least 8 feet high when intact. Two smaller Buddha images, and a number of lead coins of the Āndhra Period, of about the third century A.D., were found in the *débris* removed from this monastery. Close to it is a small brick stupa (Stupa No. 4) which yielded some relics, and a dozen earthenware pots and bowls. The latter appear to be ordinary domestic utensils used by the monks. The relics along with a few gold leaf flowers, coloured glass beads, rock crystals, coral and pearls were encased in a tiny gold casket shaped like a stupa (¾″ diam.) which was found inside a small silver casket (2″ diam.) of similar shape. This reliquary was found inside a small red earthenware pot. The silver casket, as usual, is very thin and corroded, but the tiny gold one is intact. No inscriptions were found. But the smallness of the stupa and its position just outside the monastery enclosure, together with the pottery vessels found in the stupa, seem to indicate that it represents the tomb of some Buddhist saint or priest.

MONASTERY No. 3, is situated on a hillock called KOTTAMPALUGUBŌDU and commands a fine view of the Krishna river and the Nizam's Dominions beyond. The site measures 124 feet square. As usual there was a pillared hall or pavilion in the centre with a row of twenty cells for the monks all round. The hall was 61 feet square and provided with a flat wooden roof supported on thirty-six lofty limestone pillars many of which are still standing erect. With the exception of a curious old stone mortar wheel, evidently used for grinding shell lime for making plaster and whitewash, nothing of interest was found during the exploration of this site.

On the top of the hillock above the monastery are the remains of two stupas. The larger one has been demolished and is no longer of any interest, but the smaller one yielded a fine stone relic casket 1′ 4″ high, shaped like a stupa. Inside was a second casket of similar shape, 6 inches high, and made of pottery covered with a pale green glaze. This again, contained a copper casket, 4 inches in height. Inside the latter was found a silver casket 2 inches high, containing a small gold casket, 1½″ in height. The latter contained a bone relic and the usual

[1] *A. S. I.*, 1927-28, p. 116.

jewels. Unfortunately, no inscriptions throw light upon these relics. The relic caskets from this small stupa (Stupa No. 6) are the finest and best preserved of any discovered at Nagarjunikonda.

In the central part of the valley, where cultivation now marks the site of the ancient city, five very handsome stone pillars were unearthed. From the style of their elaborate ornamentation and the curious semi-classical subjects portrayed on their shafts, the pillars must have supported the wooden roof of some royal palace or pavilion. On one of these is represented a bearded soldier, apparently a Scythian, wearing a Roman-like helmet, a quilted long-sleeved tunic and trousers, and holding a heavy spear. The figure is quite un-Indian and the style of the dress indicates a Northern origin. The other sculpture shows a male figure nude down to the waist and holding a drinking-horn (Greek *rhyton*) in his left hand. Standing on the floor near his left foot is a wine jar with an inverted cup over its mouth. This figure seems to be meant for a crude representation of Dionysus. The very active sea-borne trade between the Roman Empire and Southern India during the second century A.D., may account for the presence of this figure which was obviously copied from some classical example.

Over a hundred beautiful bas-reliefs (see Pls. XLVIII, XLIX) which originally formed the outer stone covering of certain brick stupas were recovered in course of excavation. Four more stone beams similar to those discovered last year were also unearthed. These beams which are about 11 feet in length and 1 foot in thickness seem to have formed the cornice stones of the *ayaka* platforms. The front face of the beam is divided up into panels filled with well executed bas-reliefs representing the chief events in the life of the Buddha and also scenes from the Buddhist Jātaka stories (Pl. L).[1]

---

[1] [Of the Nagarjunikonda sculptures illustrated in Pls. XLVII-L a brief description is given below :—

XLVII, *a* : Representation of a Stupa ; the Buddha is seen seated in front under the hood of the serpent Muchalinda ; three other scenes on a smaller scale are represented above his head.

XLVII, *b* : Representation of a Stupa ; the Buddha is standing on a lotus in the *abhaya-mudrā* ; three other panels above his head contain scenes from his life on a smaller scale.

XLVIII, *a* ; Nativity of the Buddha ; Māyā standing in the Lumbinī garden holding the bent branch of a tree with one hand ; the Buddha is not represented, his presence being indicated by an umbrella and two fly-whisks. To the right, we see seven foot-prints on a piece of cloth held by four persons, the *Lokapālas*. The seven foot-prints symbolize the Seven Steps of the new-born Buddha. *Cf.* Foucher, *Beginnings of Buddhist Art*, Pl. III, 2 (Amarāvatī).

XLVIII, *b* : Interpretation of the Dream. King Suddhodana seated on a throne, Queen Māyā occupying a decorated seat below and to his right ; the soothsayers are seen seated on a dais with the royal presents laid on three wicker stools in front. *Cf.* Fergusson, Pl. LX and Pl. LXV, fig. 3 (Amarāvatī). For the presents see *Jātaka Text*, Vol. I, p. 50, and for the peculiar gesture of the right hand with upraised two fingers, see Spence Hardy, *Manual of Buddhism*, p. 149.

XLIX, *a* : *To right :* The Casting of the Horoscope. Śuddhodana enthroned ; the sage Asita, recognized by his matted hair, is seated in front holding on his lap a cloth impressed with two foot-prints marking the presence of the child. *To left :* the Bodhisattva's visit to the temple (*devakula*) as described in the *Lalitavistara*, Ch. 8. The Bodhisattva's presence is here symbolized by the usual foot-prints on a cloth which is held before the god who is seen rising from his seat in adoration as related in the text. *Cf.* Fergusson, Pl. LXIX (Amarāvatī). XLIX, *v* : The Temptation. On the left : The Tempter Māra is seen approaching on his elephant, with his daughters and army ; the Buddha is seated in the *abhaya-mudrā* under the Bodhi Tree. On the right : the defeated assailants are retreating in an attitude of adoration. The substitution of the *abhaya-mudrā* for the *bhūmisparśa-mudrā*, which is the rule in this scene in the Gandhāra School, should be marked. *Cf.* Foucher, Pl. IV, 1B (Gandhāra) and 2B (Amarāvatī).

L, *a* : Adoration of the Chaitya, the symbol of the Parinirvāṇa (*on the right*) ; in a panel to left a Nāga couple standing.

L. *b* : The Worship of the Dharmachakra, which is enthroned, the symbol of the First Sermon. L, *c* : The Temptation. The Buddha tempted by Māra and his daughters who are seen on the left of the panel ; the discomfited Māra standing along with his daughters on the right holding his bow and flowering arrow. L, *d* : The Great Renunciation. The Bodhisattva leaving on his horse Kaṇṭhaka attended by Chhandaka who holds an umbrella over his head : the feet of the horse are held up by the four *Lokapālas*. *Cf.* Foucher, Pl. IV, 2A (Amarāvatī).—Ed.]

EXCAVATIONS AT HMAWZA.

By Mons. Charles Duroiselle.

Excavations at the ancient Pyū capital, HMAWZA, called in Burmese chronicles 'Śrīkshetra' were continued during the year under report. Altogether thirty-two mounds situated in different parts of the old city were examined. Most of these mounds proved to be the remains of ruined stupas and some burial mounds, barely distinguishable from the others and containing numerous earthenware funeral urns of the type usually found at Hmawza.

Excavations on a low mound to the north of YINDAIK-KWIN revealed the remains of a brick built chamber 5′ × 4′ 6″ in size from which the following objects were recovered in course of clearance.

(i) Four bronze images of the Buddha seated cross-legged, the legs overlapping, on a low pedestal. The right hand is in the *bhūmisparśa-mudrā* and in the left is an object resembling a bowl (Pl. LI, *e*). The height of these images ranges from 4¾″ to 6¼″.

(ii) A bronze Buddha in the same posture as the above, but with nothing in the left hand. Height 5¼″ (Pl. LI, *f*).

(iii) A bronze Buddha in the same attitude as No. (ii). The sharp features and pointed nose are in contrast to the above two.

(iv) A bronze Buddha, seated, with the right hand in the *varada-mudrā* and the left resting on the lap. Height 4″.

(v) A bronze image of the Buddha seated cross-legged on a lotus throne; the right leg overlaps the left, its heel, touching the pit of the stomach. Both hands are raised in the *abhaya-mudrā*, the thumbs pressed upon the bent index fingers. Height 3¾″.

(vi) A bronze seated Buddha in the *bhūmisparśa* attitude. On the palm of the left hand is a small round object, which is the *jambū-phala*.[1] Height 3½″.

(vii) A bronze seated figure of the Buddha. Height 3½″.

(viii) A damaged bronze image of a Bodhisattva. The portion below the waist is missing, and also the left fore-arm and the right hand. It wears full ornaments and a high *mukuṭa*. Height 5¼″.

(ix) A six-handed Avalokiteśvara (Pl. LII, *a*, *c*) in the *lalitāsana*, made of thin gold plate from which the mould has not been removed. Two of the hands are in the *vitarka-mudrā* and the remaining ones carry respectively a lotus with stalk, a chowrie, a trident and an indistinct object which may have been a noose or a rosary. Height 2⅞″.

(x) A copper finger ring, triangular in section, the stone of which is lost.

Lower down, about one foot from the base of the above chamber, was uncovered a second one, which contained nothing but terracotta and clay votive

[1] *Cf. A. S. I.*, 1911-12, Pt. II, p. 145.

tablets. Each of these tablets which is in the form of an arched niche and is about 3⅝″ in height, bears the figure of a Buddha in the *bhūmisparśa-mudrā* on a lotus cushion under a trifoliated arch crowned by an umbrella surrounded by leaves of the Bodhi tree. Flanking the Buddha on either side are five small stupas. This design is common in Burma and many examples, of the 10th-11th century, have been found at Pagan. Those under reference belong to the same period, as evidenced by the characters of the legend which is the Sanskrit version of the Buddhist Creed. The number of votive tablets of various types found in Burma is extraordinary and when all other authentic records are lacking these serve as data for ascertaining the age of the monuments in which they are found.

Among the *dēbris* were also found tablets of another type, which are later in date and seem to have been placed as *ex-votos* by pious visitors to the stupa. There was also recovered at this site the head of a bronze Buddha 3¾″ in height and a fragmentary stone image with protuberant stomach.

Another mound was examined close to the east of the one mentioned above. A shaft was sunk into the centre and a trench cut across it, but it did not yield anything of interest, excepting a few votive tablets belonging to about the 10th-11th century, found some 10′ below the surface. The walls of the building were in such ruinous condition that it was impossible to form an exact idea of the plan of the monument. But as the mound was conical, it is presumed that it consists of the ruins of an ancient stupa.

Excavations at a mound situated about 550 feet to the south of the LEMYETHNA TEMPLE, disclosed the remains of a circular building 7′ 8″ in internal diameter. It has an opening on the northern face with a projecting porch; but this opening is only 20″ in width and not high enough for a man to pass through. It is erected on a raised platform, square on plan, 17′ 8″ each side, and is surrounded by a wall. It probably represents a funeral monument, of which the contents seem to have been removed at some remote period.

A mound 60 feet in length, 50 feet in breadth and only 2 feet in height, situated close to the THARRAWADDY GATE and outside the old city wall, yielded two gold images of the Buddha. The larger one measuring 4½″ in height (Pl. LI, *g*), is seated with one leg overlapping the other. On the soles are some of the signs distinctive of the *Mahāpurusha;* and both the hands are in the *vitarka-mudrā.* The features are peculiar: the thick, hanging lower lip and the corners of the mouth boldly turned up, give to the lower part of the face a heavy expression. The figure is hollow, and its present state of preservation is surprising in view of the thinness of the gold. Within the image was found a tiny silver casket, ⅞″ in height, having the shape of some of the funeral urns so frequently found at Hmawza. Within the casket, soldered to its bottom, is a cylinder closed with a small conical moveable cover. Some ashes which are probably those of a monk or possibly alleged relics of the Buddha were found inside the cylinder. The smaller gold image is 2½″ in height. It represents the Buddha seated in the earth-touching attitude, the left hand resting on the lap and holding a begging bowl. These two figures probably belong to the 10th or 11th

century A.D. The images were found in the centre of the mound at a depth of 7′ from the top, in a small relic chamber. The bricks of the chamber seemed to have been disturbed by treasure-seekers, who missed the images to the advantage of the Archæological Survey. At the same site were also brought to light a few terracotta votive tablets bearing the effigy of the seated Buddha in the *dharmachakra-mudrā,* which may, from their technique, be ascribed to the 10th-11th century. Traces of foundation walls were also unearthed, and from what could be concluded from their scanty remains, the original structure seems to have been a temple facing west, with a subsidiary stupa at each corner.

Excavations in a mound at Pyogingyi-kon yielded some terracotta tablets bearing an effigy of the Buddha on the obverse. The reverse side of some of these is quite blank, while others contain short extracts from the *Abhidhamma-piṭaka.* Unfortunately, the inscribed tablets are all in fragments, but enough remains for the short texts to be recognised. The Buddha is seated in the *bhūmisparśa-mudrā*; the feet, as is often the case at Old Prome, are overlapping; and the dress is indicated by a line at the neck and ankles. Another tablet, of which only the lower half remains, contains on the reverse a short inscription in a script of the same type as that on a gold plate described below. It is an extract from the *Abhidhamma,* perhaps from the *Patthāna* portion (the 7th book of the *Abhidhamma*). It is quite legible and what remains may be read as follows :—

(*adhi*) *patipaccayo*
anantarappaccayo.

Another tablet again (Pl. LII, *b*) contains an extract which appears to be from the *Dhammasaṅganī,* the first Book of the *Abhidhamma.* It reads :—

Kusalā . . .
-salā dhammā avyāka [*tā*]
dhammā

At the end are a few words in Pyū, not quite clear, but which may be tentatively read as: *bȧ: u hi u bȧ:*

Another small fragment of the same type of votive tablet contains a portion of the creed "*Ye dhammā hetuppabhavā....*" etc., in South Indian characters. The letters are very much worn and decayed, but there is no doubt about their contents. These few fragments, which may be ascribed to the 5th to 7th centuries A.D., are interesting as they are the oldest ever found in Burma bearing legends in these characters. The tablets found in previous years belong to a somewhat later period, their legends being in Pyū characters, which are derived from the alphabet just mentioned.

Excavations were carried on also at another mound at Pyogingyi-kon where the remains of a brick structure, most probably a stupa, were discovered. It is octagonal on plan, each side measuring 8′ 6″ in length and built on a low square platform 30′ on each face. This octagonal form of stupa seems to have been common in Old Prome, for, on excavating a mound near the Sinma-ko-wun-din Kon, the remains of a structure very similar in plan to the above, were brought

to light during the year under report, besides three others which were discovered last year. So far, no complete example of such structures going back to an early period has been found at Hmawza. Stupas octagonal in plan and in form may be seen in different parts of Burma, notably at Pagan, the most beautiful among them being the famous Sule pagoda in the heart of the city of Rangoon.

At another mound at Hmawza there was unearthed a small bronze headless Buddha image (Pl. LI, *b*) with the Buddhist formula incised on its pedestal. The inscription is in GUPTA CHARACTERS somewhat different from those of the votive tablets mentioned above and may be assigned to about the 7th century. A peculiarity in the form of the letter *ha* of this epigraph may be noticed; it resembles the early Brāhmī *la* with the hook turned towards the left. The same form is met with in Arakan, in an inscription round the pedestal of a small stone stupa found at Vesāli, and in another on a small stone slab within the Kyauktaw pagoda at Kyauktaw. The language of the inscription under reference is SANSKRIT, being the second document in Sanskrit found at Hmawza. The first, which was brought to light last year, is a somewhat lengthy inscription on the four sides of a stone image of the Buddha, in Mixed Sanskrit and in Pyū, the latter being a translation or rather explanation in a commentary form of the Sanskrit text. These two documents prove the existence at Prome, at an early period, of both PĀLI and SANSKRIT. Considering that this old city was colonized by the Indians from across the Bay of Bengal about the beginning of the Christian era, the existence of Sanskrit in Prome is naturally to be expected. Those colonists did not profess one and the same faith. There were Brahmanists as well as Buddhists of both the schools, the Hīnayāna and Mahāyāna, the presence of the latter being attested by several finds of distinctly Mahāyānistic character. This, however, does not mean that Buddhist texts in Sanskrit are to be ascribed straightaway to members of the Great Vehicle; they may as well be ascribed to the Mūla-Sarvāstivādins, who belonged to the Hīnayāna School, but whose Canon was in Sanskrit. The Mūla-Sarvāstivādins, as is well known, spread themselves very early over a vast extent of Asia having settled in Turkestan, China, Indo-China and the Indian Archipelago. The Hīnayāna with its Pāli Canon was introduced into Hmawzā from Kāñchī (Conjevaram), whence also the Pyū seem to have received the art of writing. The presence of Brahmanism at Hmawzā is attested by numerous stone sculptures, of Vishṇu and other deities. Śrīkshetra was a great religious centre, where the Brahmanists, Mahāyānists and Hīnayānists with their Pāli and Sanskrit Canons flourished side by side.

This account of excavations at Hmawzā may well conclude with the description of an inscribed gold plate (Pl. LI, *a*) found by one Maung Kyaw Nyein of KYUNDAWZU village in Old Prome. According to him, it was found while clearing the undergrowth of plantation at the back of his house. On examination the site was found to be a low mound with no traces of bricks or vestiges of ruins on its surface or in its neighbourhood. The presence of the gold plate, therefore, at this spot is unaccountable. The plate itself had, obviously, been folded up when discovered, and the man, in trying to clean it had broken it into

seven fragments. Each fragment is about $\frac{1}{8}''$ in breadth, and the total length of the seven fragments is about $8\frac{3}{8}''$. It is, however, not complete since one fragment at least is missing at the right end. The gold plate bears an inscription consisting of two lines in old SOUTH INDIAN CHARACTERS, resembling very closely those on the gold plates found at Hmawzā in 1926-27 and belonging to about the 6th-7th century A.D. It is in PĀLI language and contains the first part of a well-known formula, as follows:—

1 Iti pi so bhagavā arahaṁ sammāsambuddho vijjācaraṇasampanno sugato lokavidū anuttaro purisa [dhammasārathi satthā]

2 devamanussānaṁ buddho bhagavā ti.

In the latter portion of the second line the letters are not distinct, and it has not yet been possible to make connected sense of it. The formula, which is in praise of the Buddha, is a stereotyped one occurring in the Vinaya and Suttanta *piṭakas*. The Pyūs appear to have had a predilection for copying short extracts from these two *piṭakas*, especially from the *Abhidhamma-piṭaka*, on gold and silver plates, which were enshrined within pagodas, as well as on terracotta plaques and stones, of which a good many have been found at Hmawzā during the last few years. This custom, which was not peculiar to the Pyū, must have been derived from ancient India and probably obtained among the Mon (Talaing) of south-eastern Burma, and in Pagan in the 11th century.

EXPLORATIONS AT PAGAN AND MANDALAY.

By Mon. Charles Duroiselle.

PAGAN.

One of the mounds at PAGAN, where excavations were carried on during the year is situated near the TILOMINLO TEMPLE built by King Nandaungmya (1210-1234 A.D.). It marks the site of a Buddhist establishment, and in course of excavation there was discovered a relic chamber measuring $2\frac{1}{2}' \times 1\frac{1}{2}'$ in size. The chamber yielded a large number of terracotta votive tablets, an image of Vessabhū and two other figures in a sitting posture. The three were placed on the floor of the chamber, the Vessabhū image in front, at the bottom of a small stair, and the other two immediately behind it side by side. Of the latter, one was in terracotta and the other which was probably its replica, in unbaked clay. The terracotta figure represents a man with protruding belly (Pl. LI, *c*) which recalls similar ones found in the excavations at Hmawzā. These figures are seated in the *vajrāsana*, on a lotus, and their locked hands seem to sustain the weight of their abnormally big belly. The drapery is indicated by lines at the neck, ankles and wrists. The other similar figures were found in the relic chamber of another ruined temple at Pagan which probably dates from the 13th century A.D.

No light is thrown on their identification by the written records or oral tradition of Burma. At first sight it suggests one of the 'gods of wealth,' for instance, Kuvera or Pañchaśikha, but it has a shaven head and none of their attributes. It is probably a Burmese 'succedré' of the Chinese Maitreya, Mi-lo-fo, who is represented in very much the same fashion, except that the open

robes leave his chest bare.[1] The modern Burmese, however, are inclined to identify this figure with Moggallāna, and in this connection they relate a story, which does not seem to appear in the *piṭakas* or their commentaries, but is found in a Pāli work, the *Lokapaññatti*, famous in Burma for its apocryphal lore. It is therein stated (MS., pp. 196-197) that Māra, in a frolicsome mood, entered the body of Moggallāna, the great disciple of the Buddha Gotama, and ensconced himself in his stomach, thus causing it to swell to an inordinate size. The saint, being unaware of the Fiend's presence, thought that he was suffering from some acute form of indigestion. But Moggallāna soon discovered, through his superhuman powers, the real cause of his discomfort. He admonished Māra, pointing out the danger of playing such tricks on the Buddha's disciples, and adding that he himself had suffered dire punishment in hell for having, in a former existence, played a similar joke on one of the disciples of Buddha Vipassi. Māra then left him and went away laughing. Practically the same story is told in a Burmese work, known as the *Jinatthapakāsanī-kyam*, p. 457, but here, the incident is said to have taken place in the time of the Buddha Kakusandha.

Popular traditions are altogether silent as to the identity of this personage. But it may be interesting to note here the interpretation which the local elders and monks give to a similar figure found at Nyaung-gon, a suburb of Mandalay. Instead of the usual monachal robes, this figure wears a sort of cape-like dress falling over the body with a hood covering the head. According to them, the particular figure represents a nun who, in the time of the last Buddha, gave birth to a child, an event which caused no little consternation among the nuns. The owners of the figure and the people of the suburb, set great store on this image, as specially lucky. Traces of the cult or devotion to these figures in Burma, have been found extending from about the 9th to the 15th centuries A.D.: they seem to have been totally forgotten after that period.

The relic chamber brought to light near the Tilominlo temple just referred to, was built immediately beneath a brick pedestal on which was an image of the Buddha, seated in the earth-touching attitude, flanked by two disciples. The votive tablets that were collected from this spot are all of the same kind bearing an effigy of the seated Buddha flanked by two disciples, evidently Sāriputta and Moggallāna, kneeling in the *namaskāra-mudrā*. Along the lower edge of the tablet, beneath the lotus-throne is a line of writing in Burmese characters of the 12th-13th century in mixed Talaing (Mon) and Pāli. It reads:

wé kyek saṅganāga isvipākārā:

"The Buddha, the Chief of the Saṅgha, between two anchorets"; or "The Buddha between two anchorets, Chiefs among the Saṅgha." (Pl. LI, *d*).

The figure of Vessabhū found in the relic chamber corresponds in every detail to Gotama, the identity being revealed only by a two-line inscription round the pedestal:

yo Vessabhū sarīdharo ca anantabuddhī sattuttamo dasa [*balo**]..........
[*dha**] [*mma*] *kāyo, lokekacakkhu asamo sugato anejo vandāmi taṁ sarīdharaṁ atulam munindaṁ*..........

[1] Cf. Grünwedel, *Buddhist Art in India*, p. 147 and n.

" The (Buddha) Vessabhū, the Glorious, of Infinite Wisdom, the Greatest among beings ...., the One Spiritual Eye in the world, the Incomparable, the Blessed One, the Desireless ; Him I revere, the Glorious, the Admirable, the Chief of Sages " (Pl. LIII, *d*).

From the same mound were recovered, in addition to those noticed above, the following objects :

1. A large fragment of a stone lotus pedestal (left *in situ*).
2. The upper portion of a stone image of the Buddha with broken face (left *in situ*).
3. A small headless stone image with protuberant belly. Height 3″.
4. A small stone lotus pedestal.
5. Fragments of terracotta votive tablets including one of King Anoratha (1044-1077 A.D.) with a number of figures of the Buddha stamped on it. The king's name appears on the tablet, which was placed in the relic chamber when the temple was being built, nearly two centuries later.
6. Two fragments of terracotta votive tablets and three entire ones of the same type belonging also to Anoratha. The principal figures depicted on each are a seated Buddha flanked by two Bodhisattvas. Below is a line of Sanskrit inscription in Nāgarī beginning with the words " *Deyadharmo yaṁ.*"
7. A fragmentary elliptical terracotta votive tablet, bearing the effigies of the Buddha Gautama and the previous Buddhas arranged in rows. The spaces between the Buddhas and between the lowest row and the rim of the tablet are filled with the letters of an inscription in Burmese characters of the 12th century A.D. containing a prayer of the donor.

Besides the relic chamber the ruins of a small temple measuring 17′ × 19′ were also discovered. The temple had a porch projecting about 11′ beyond the main shrine, and had only one entrance on the east. The temple belongs to about the 12th-13th century A.D. The tablets of Anoratha found at the site must have been brought over from some older and ruined temples and re-enshrined. On another mound, close by was exposed a relic chamber which had already been disturbed by treasure-hunters. Judging from the remains of walls it would seem that the original building here was almost similar in plan to the one mentioned above, but on a smaller scale. The finds made here consisted of a few terracotta votive tablets and a stone image with protuberant belly. The image measures 8½″ in height. Three other mounds in the vicinity of these were also excavated, but nothing of interest was discovered except a few terracotta votive tablets. The chambers had, in most cases, been rifled of their contents. Mention may, however, be made of a small terrocotta votive tablet found on one of these mounds. Instead of the usual image of the Buddha, it bears in relief a small seated figure with a shaven head and protuberant belly. This cult appears to have been quite popular among the Buddhists of the 12th 13th century A.D.

Excavations were also conducted at four other sites, of which two are within the compound of the GUNI TEMPLE near the Ananda pagoda, and the other two near the SULAMANI PAGODA. The results however were disappointing, as nothing of interest was found.

Explorations at MYINPAGAN brought to light an inscribed stone measuring 3′ 3½″ × 1′ 11″ and a stone image of a form of Siva and that of Gaṇeśa. The inscribed stone was unearthed within the compound of a ruined temple near Myinpagan. It is inscribed on both sides and is in a fair state of preservation. The inscription, which is in Burmese, records the excavation of a tank by the wife of a certain 'Kaung Thin,' and the building of a temple in 1210 A.D. the dedication to the latter of slaves in 1212 A.D., and the enshrinement in the same temple of a gold image (of the Buddha) in 1215 A.D. Land was also granted to the temple, but the name of the temple itself is not mentioned. There can, however, be no doubt that the temple in the compound of which the stone was found is the one referred to in the inscription. Its chief value lies in the fact that it contains a good many old Burmese words which have now become obsolete. The image of Siva was found on the river bank close to a tank, where it was gradually exposed by flood. The figure is very much damaged, but enough traces are left to identify it with some certainty. It is seated in the *sukhāsana* on a stylised lotus placed on a pedestal. The right leg is pendent, the foot resting on a small figure lying on its side, which seems to be Apasmāra. This enables us to identify the image as that of a form of Śiva. It has four hands, but their attributes are defaced and cannot be made out. The stone measures 2′ 4″ × 1′ 6″ with a thickness about 9½″.

Vestiges of SAIVISM IN BURMA are fewer than those of VAISHNAVISM. A temple dedicated to Vishṇu and belonging to about the 12th-13th century may still be seen at Pagan, standing in the midst of numerous Buddhist monuments of about the same age, close to the old Palace site. A Tamil inscription found at Myinpagan records, according to Dr. Hultzsch, the dedication of a Maṇḍapa to a "Vishṇu temple of those coming from various countries." The astrologers at the court of King Kyanzittha (1084-1112 A.D.) and most of the artisans present at Pagan at that period were Vaishṇavas. Vaishṇavism in Pagan was the religion of a floating mercantile population. That there were also Saivaites goes without saying, but up till now only a few relics of this form of Hinduism have been found in Burma, the most notable among these being a Saiva image now preserved in the Museum at Pagan. Gaṇeśa, the son of Śiva and Umā, seems, however, to have been a popular deity at the Court and among a large section of the Buddhists of Burma, up to even the last century. In course of excavation on a mound near the Somingyi pagoda at Myinpagan, which, to all appearances, is a Buddhist monument, there .was found the stone figure of Gaṇeśa (Ht. 6½″). It was discovered in the relic chamber of a ruined temple, along with a Buddha head, and a terracotta votive tablet bearing effigies of the Buddha. The relic chamber had been plundered by the treasure-seeker, but the Buddhistic nature of the ruins was quite apparent from what remained of the contents. Gaṇeśa is represented sitting cross-legged, in alto-relievo, on a

pedestal ornamented with the figures of a crocodile, a fish and a tortoise. He has four hands, of which one is in the *bhūmisparśa-mudrā* and holds a rosary, one is placed on the lap supporting his "pot-belly", and the other two hold respectively a hook and a conch. Gaṇeśa is known in Burma as Mahā-Binne (Binne=Vināyaka), and a great festival, recognised by the Court, used to be held in his honour, in the Burmese month of Nadaw (November-December) every year, during the harvest season. The peculiarity of this figure consists in the three aquatic animals. Representations of Gaṇeśa with these animals seem to be quite rare and none appears to have been noticed in the works on Brahmanical iconography so far published.

MANDALAY.

Certain persons digging for bricks at an old mound at NYAUNG-GON, MANDALAY, discovered the fragments of a stone sculpture which were afterwards pieced together. The sculpture (Pl. LII, *e*), which measures 7½" in height, and is of exquisite workmanship, represents several scenes of the Buddha's life, from the Nativity to the Nirvāṇa, carved around a figure of the Buddha seated in the centre of the composition. The scenes are arranged in panels on either side and above the central figure. In style and workmanship and the arrangement of the scenes, it resembles very closely the fragment found at Sarnath by Mr. Oertel[1] and sculptures found at Pagan[2]. A sculpture somewhat resembling these in style is said to have been presented to King Bodowpaya (1781-1819 A.D.) by certain monks of Pagan, and it is stated to have been originally brought over from Ceylon. According to Dr. Vogel,[3] who describes a similar sculpture from Ceylon, these Pagan sculptures may be assigned to the ancient MAGADHA country *i.e.*, Southern Bihar, and to about the 11th-13th century A.D. The sculpture at Mandalay was found with terracotta votive tablets of the Pagan type belonging to the 12th-13th century. Regarding the mode of importation of such sculptures into Burma through the agency of monks and laymen from India and Ceylon the following quotation from Harvey's "History of Burma" (page 11) may be of interest :—

"In Benares land there was an ancient pagoda on the top of the river Ganges' bank. When the bank was washed away, men picked up the relics and holy images that had been enshrined there, and gave them to their children to play, for there was no longer anyone to worship them. Now Nga Dula a ship's captain saw this, and he thought "The folk of the east country deem these images divine and worship them. I shall get gain if I sell them to the folk of the east country." So he bought them for a fitting price and came with them to the landing stage of Pegu.........Men told king Tissa (1043-57).......and he rewarded Nga Dula richly and ennobled him (*Shwemawdaw Thamaing*, 81)."

---

[1] *A. S. I.*, 1904-05, p. 84, fig. 8.

[2] *A. R. S. A. S.*, *Burma*, 1923, pp. 301-31, and *J. A. S. B.*, N. S., Vol. XXI, 1915, Pl. XXIV.

[3] *J. A. S. B.*, 1915, pp. 301-302.

SECTION III.—EPIGRAPHY.

SANSKRIT EPIGRAPHY.

By Dr. Hirananda Sastri.

Inscriptions discovered during the year.

The year under review has been exceptionally fruitful in the discovery of important inscriptions. The most valuable epigraphs brought to light in the year are the ROCK-EDICTS OF AŚOKA lying near YERRAGUḌI, a small village in the Pattikoṇḍa *taluk* of the Kurnool district in the Madras Presidency. These inscriptions were discovered by Mr. Anu Ghose of Calcutta, who brought them to the notice of Mr. H. Hargreaves, the Officiating Director General of Archæology in India, in January 1929. A preliminary note on these inscriptions has been contributed by Rai Bahadur Daya Ram Sahni, and appears below in the section Miscellaneous Notes.[1]

The BRĀHMĪ INSCRIPTIONS in the caves near PUGAḶŪR station on the Erode-Trichinopoly section of the South Indian Railway, were examined *in situ* by Mr. K. V. Subrahmanya Ayyar, Superintendent for Epigraphy.[2] The hillock, on which the Pugaḷūr caves stand, goes by the name of Āṟunāṭṭār-malai and is famous for the temple of Subrahmaṇya which crowns it. One of the two caves lies on the northern and the other on the southern slope of the hillock, both having several stone beds in them which are locally known as *Pañcha-Pāṇḍavar-paḍukkai.* The left half of the northern cave contains six beds, of which five are in one row and the sixth lies separately. The latter bears a Brāhmī inscription. A modern Tamiḷ inscription, dated the 23rd day of the month of Appasi in Uba (Aippaśi in Vibhava) and giving the name of Āṟunāṭṭār, is also engraved on it. The Brāhmī inscription, according to Mr. Ayyar reads *Ṉākaṉ makaṉ ·laṉṉākaraṉ*, *i.e.*, '·laṉṉākaraṉ, the son of Ṉākaṉ.' The right half of the cave also contains several beds but they are damaged and do not show traces of any inscriptions.

The southern cave also contains several beds. To the left or the western side of it, we find three couches but none is inscribed. The overhanging boulder at this end, however, has two Brāhmī records, engraved one above the other, but Mr. Ayyar says that they are too worn to give any connected sense. To the east of the three inscriptions mentioned above, there is a set of five beds of which the first, the third and the fourth bear inscriptions written in the same old Indian script. They respectively read :—

Koṟṟaṉ Tailaeṉ Maṉṟu, *i.e.*, 'the abode of Koṟṟaṉ Tailaeṉ',

Atiṭṭāṉam, *i.e.*, 'abode or place of meditation',

Karuūr poṉ vāṇikaṉ Na.ti atiṭṭāṉam, *i.e.*, 'the abode of Na.ti, the goldsmith of Karuūr.'

The top of the fifth bed bears another Brāhmī inscription written in two lines which he would read :—

Aṉṉa vāṉṉaka..
makaṉ Ātaṉ atiṭṭāṉam

i.e., 'The abode of Ātaṉ, the son of Aṉṉavāṉṉaka(n).'

[1] *Infra, pp.* 161-67.
[2] *Cf. A. S. I.*, 1927-28, p. 136.

Portions of some more beds are still to be seen to the right of this set of stone-couches where traces of a five-lined inscription in the same script are discernible. The pillows of two more beds towards the west also show marks of similar records of which the word *atiṭṭāṉam*, (*i.e.*, the abode) alone can be made out with certainty.

If these and the other inscriptions in the caves of the Tinnevelly and Madura districts, with which we are now familiar, are really Tamiḻ records written in the Mauryan Brāhmī alphabet, they are sure to prove very helpful for the linguistic history of the *Tamiḻakam* or the country of the Tamiḻs.

Next in date and importance come the two stone inscriptions from MATHURĀ. One of them is dated in the 28th year and belongs to the reign of the Kushāṇa king HUVISHKA. The other is a record of the reign of CHANDRAGUPTA II of the Imperial Gupta dynasty.

Mr. Longhurst in the course of his excavations at NĀGĀRJUNIKOṆḌA in the Palnād *taluk* of the Guṇṭūr district in the Madras Presidency, succeeded in bringing to light a number of highly interesting Buddhist sculptures and reliquaries containing some corporeal remains. These finds, I believe, will settle an interesting point connected with the nature of the *Mahāchetiya*. The wording of the inscriptions alluded to above [1]led me to think from the very commencement that the great *stupa* must have contained the *dhātu* or corporeal remains of the Buddha and the royal donors named in these records lavished their benefactions on it evidently in consideration of its sanctity caused by the sacred deposit. My surmise chiefly rested on the expression *saṁmasaṁbudhasa dhātuvara-parigahitasa* which occurs in most of these epigraphs. I now feel confirmed in my belief especially because of these finds although I am not unaware of the fact that no document has yet been excavated which has a direct bearing on the identity of these *dhātus*. The *shashṭhī* or genitive used in the expression *dhātuvara-parigahitasa*, it seems to me, signifies *nirdhāraṇa*, *i.e.*, discrimination from the other *chetiyas*, the more so, because this *viśēshaṇa* or adjective follows *saṁmasaṁbudhasa*, the highest epithet of the 'Lord.' The meaning[2] of the expression however, seems to be worth investigation.

An inscription on the 'foot-print slab' excavated by Mr. Longhurst records the gift of Budh[i] (*i.e.*, Buddhi), the sister of the Scythian (Śaka) Mōda. That the donatrix was a Scythian deserves special notice as do the sculptures representing some Scythian soldiers which were also discovered by Mr. Longhurst from the same site.[3]

Another interesting epigraph found during the year is the fragmentary Buddhist stone inscription which Mr. Page unearthed from one of the monastic sites at NĀLANDĀ. It is a Sanskrit record, beautifully written in the Nāgarī script of about the eleventh or twelfth century A. D. and is, apparently, connected with the foundation of a shrine of Tārā at Sōmapura. The setting up of the image of Tārā in the great *āyatana* or temple of Khasarpaṇa (the well-known form

[1] *A. S. R.* 1925-26, p. 131.

[2] Dr. Vogel, in his valuable article on the inscriptions found at Nagarjunikoṇḍa *Epigraphia Indica* (Vol. XX, pp. 17 and 29) interprets the expression as 'absorbed by the best of elements.'

[3] *Supra*, p. 140.

of Avalōkitēśvara), of the image of Dīpaṅkara Buddha at Harshapura and the decoration of the monastery of Pitāmaha at Chōyaṇḍaka, to which this record refers, seem to be some of the pious deeds of the founder who was probably Vipulaśrī-Mitra, a monk mentioned along with the other friars. It speaks of certain localities also but no details are available to help in their identification. The name Sōmapura, however, reminds us of the homonymous place connected with Dēvapāladēva, the well-known Pāla king. Tāranātha[1] says that Dēvapāladēva built the temple of Sōmapura. The *Pag Sam Jon Zang* of Sumpa Khan-Po Yeçe Pal Jor[2] ascribes the foundation of a great *vihāra* or monastery at Sōmapurī to the same monarch. The inscription on a statue of the Buddha in the great temple at Bōdh-Gayā[3], which was copied by our Patna office several years ago, also mentions the great *vihāra* of Sōmapura along with the epithet *Sāmataṭikaḥ*, *i.e.*, 'of Samataṭa,' which it applies to a teacher apparently connected with the image. Obviously, the monastery mentioned in this document, is the same as the one spoken of in the above named books, but it cannot be stated definitely at present whether the Sōmapuras are identical. The mention of a monastery of Pitāmaha at a place called Chōyaṇḍaka is another noteworthy point in this epigraph. The word Pitāmaha occurs as an epithet of the Buddha in the Pedestal Inscription of the Kushāna year 14[4] and it is not unlikely that the *vihārikā* of the record under notice was dedicated to him.

The TELUGU INSCRIPTION, a copy of which was sent for decipherment by Mr. G. Yazdani, the Government Epigraphist for Moslem Inscriptions, may also be noticed in passing, although a comparatively late document. It belongs apparently to the reign of IBRĀHĪM QUṬB S̲HĀH, the son and successor of Jamshīd Quṭb S̲hāh of GOLCONDA, and is dated in Tuesday, the fifteenth day of the bright half of Māgha of the Śaka year 1472 (11th February, 1541 A. D.). While recording that the damaged bund of a large reservoir of water called Udayasamudram was repaired by one Rahmat-Ullah for the merit of Sayyidu-s-Sādāt, Sayyid S̲hāh Mīr, the honoured counsellor (*of the king*), it clearly states that the shares (*of income*) accruing from the lands irrigated by the reservoir were divided in such a way that one share went to the king, one and a half to the subjects, and two to the Turukalu (*Turushkas*), *i.e.*, Mahomedans, as well as to Brahmans, and it thus gives an idea as to how revenues were distributed in those days in the tract to which the document belongs.[5]

Collection of Kanarese inscriptions from the Bombay Karnatak.

The epigraphical survey of the BOMBAY KARNATAK was continued chiefly under the supervision of Messrs. N. Lakshminarayan Rao and R. S. Panchamukhi. During the year 248 inscriptions were copied. Including this collection, we have now secured 823 new inscriptions from the 895 villages of the seven *taluks* and two *peṭhas* in the Bombay Karnatak which have now been completely

---

[1] *Indian Antiquary* Vol. IV, pp. 366 *ff.*
[2] Ed. Sarat Chandra Das, pp. 111, 116 and cxx.
[3] *A. S. R.* 1908-9, p. 158.
[4] *Epigraphia Indica*, Vol. XIX, pp. 96 ff.
[5] *See* Epigraphia Indo-Moslemica, 1925-26, pp. 24-25.

surveyed. The Kanarese inscriptions, copied now, represent several dynasties, including the Chāḷukya, the Rāshṭrakūṭa, the Kaḷachurya and the Hoysaḷa. The most important of these inscriptions may briefly be noticed here. One of them, lying at BĀDĀMI, may palæographically be ascribed to about the eighth century of the Christian era. It speaks of a SĒNDRAKA chief BHĪMASATTI (Sanskrit, Bhīmaśakti) as a "devotee of the feet of Satyāśraya." This Bhīmasatti seems to be a new name not noticed by Fleet in his account of the Sēndrakas. Who his overlord was is not clear, for Satyāśraya was a common *biruda* of the Western Chāḷukyas. The inscription at Paṭṭadakkal, which mentions a king named Taila-Mahādhirāja giving Śrī-Perggaḍe-Mahārāja as his epithet, is another noteworthy record. Though it is not dated, it can on palæographical grounds be relegated to the ninth century A. D., and the king Taila, it mentions, may well be Taila I, who was the great-grandson of Satyāśraya-Samastabhuvanāśraya Vijayāditya (A. D. 696 to 733-34).

Of the 41 records of the LATER CHĀḶUKYAS OF KALYĀṆI, copied this year, the BANAŚAṄKARI inscription of Jagadēkamalla Jayasiṁha II, dated Śaka 941, is interesting for it describes the Rāshṭrakūṭa chieftain MAHĀMAṆḌALĒŚVARA BHĪMADĒVA as a '*pāda-padm-ōpajīvin*' of the Chāḷukyan overlord JAYASIṀHA II. Another noteworthy document is lying at PAṬṬADAKKAL and belongs to the reign of BHUVANAIKAMALLA SŌMĒŚVARA II. It states that the town of Kisuvoḷal became famous on account of the *paṭṭa-bandha* festival of the Chāḷukyan kings which was celebrated there and thus explains the derivation of the modern appellation Paṭṭadakkal. A record at MORAB in the Navalgund *taluk* tells us that NOḶAMBA-PALLAVA-PERMĀNADI JAYASIṀHA-DĒVA, the younger brother of Vikramāditya VI, governed, as Yuvarāja, the districts of Kandur-1000 and Beḷvola-300 together with Puligeṛe-300 and that he performed the *Tulā-purusha* and the *Hiraṇya-garbha* ceremonies while residing at Etagiri, the modern Yādagiri of the Nizam's dominions. The ARASĪBĪḌI (Hungund *taluk*) inscription introduces us for the first time to a *sēnādhipati* or commander-in-chief of King Vikramāditya, named AVARARASA, and states that, when he was administering Kisukāḍu-70 and Kariviḍi-30, he granted some lands to the forty-two learned men residing at the *Brahmapurī* of Vikramapura (modern Arasībīḍi). NILGUND in the Bādāmi *taluk* has given us an important document which testifies to the active part taken by women in warfare in mediæval times. It is a *vīragal* (or "hero-stone") of the two *gāvuṇḍas* (headmen) named Chāva-gāvuṇḍa and Halli-gāvuṇḍa, who died during an attack led in person by CHĀGALA-DĒVĪ, the wife of a *Mahāsāmanta* (name lost) of Toṛagale on the town of Nīlagunda. Goggidēvarasa or Goggarasa of the Kārttavīrya family figures in a record at Aṇṇigēri as a subordinate of KUMĀRA-BRAHMARASA, the famous general of SŌMĒŚVARA IV, who restored to his master the Chāḷukyan sovereignty that had been usurped by the Kaḷachuryas. This inscription is of interest for it gives us an idea of the hatred which the Chāḷukyas bore against Jainism, the religion of their foes, the Kaḷachuryas, about the end of the twelfth century (A. D.)

Of the eight inscriptions of the KAḶACHURYAS only one requires notice. It belongs to the reign of RĀYAMURĀRI SŌVIDĒVA and acquaints us with the

hitherto unknown feudatory, named Dhannugidēva, who governed the Beḷvola-300 district, about the Śaka year 1095.

Twelve inscriptions of the YĀDAVA KINGS were secured, but only three require special mention. The dates they give are somewhat puzzling and do not admit of verification unless we take the year of nomination for kingship as the year of commencement of a reign. The record of SIṄGHAṆA found at KANDAGALL in the Hungund *taluk* is dated in the cyclic year Vikrama (A. D. 1220) which is given as the 21st year of the king. Another record found at the same place gives Vibhava (A. D. 1208) as his eighth year. These two documents would, therefore, show that A. D. 1200 was the first regnal year of Siṅghaṇa. But according to another inscription, which was also discovered in the same village, Śrīmukha (A. D. 1213) was the fourth year of his reign. This would make A. D. 1210 to be the first year of Siṅghaṇa's rule. According to the late Dr. Fleet,[1] Siṅghaṇa began to rule in the year 1210 A. D. This view rests on an inscription which is dated in the cyclic year Parābhava, *i.e.*, A. D. 1246 and takes it to be the 37th year of Siṅghaṇa's reign. To reconcile these two sets of dates, one has to assume that Siṅghaṇa was associated with his father in the administration of the country for about ten years before he was actually anointed as king in A. D. 1210. The mention of a new geographical division named Kannaḍa-4000 province and of Kandagāle (modern Kandagall) as the warehouse of this Kannaḍa-4000 province is another interesting feature of this document. The inscription discovered at YEṆDIGIRI in the Bādāmi *taluk*, though fragmentary, is of considerable value. It establishes the historical existence of a place called 'KANDHĀRAPURA,' for it clearly states that Kṛishṇa or Kandhara, the grandson of Siṅghaṇa, was ruling 'with the enjoyment of pleasant conversations' in the standing camp (*nelevīḍu*) of Kandhārapura. Fleet in his comments on this place-name, occurring in a Raṭṭa[2] record of the Śaka year 1179, took it 'to be a purely imaginary place'. The inscription under notice, about the genuineness of which there can be no doubt, would prove him to be wrong in holding that view. It may incidentally be added here that the name *Kandhārapura* may be the Prakrit form of Sanskrit *Skandhāvārapura*, 'the city of the camp,' the more so, because a 'standing camp' at the place is mentioned in this inscription.

The two records of the ĀDILSHĀHI DYNASTY OF BIJĀPUR, copied during the year, also deserve a passing notice. One of them is at BIḶGI and refers to the reign of "IBURĀHIM-ADILA-ŚĀHA", apparently, Ibrāhim Ādil Shāh, son of Ali 'Ādil Shāh. It is dated in Śaka 1526 and speaks of a *vizier* named Khānē Ājam (Khān-i-Āzam) Yākūta Khāna (Yāqūt-Khān) as the Governor of Biḷgi-*samatu*. The other, lying at AṆṆIGĒRI in the Navalgund *taluk*, belongs to the reign of MAHMŪD PĀDSHĀH, the son and successor of Ibrāhīm Ādil Shāh, and mentions one Rustuma-Jamā (Rustum-i-Zamān) as the founder of Rustum-*pēṭha*.

The BHADRAPUR inscription of this year's collection is interesting in that it is the first known Kanarese inscription of SHIVAJI, the great founder of the Mahratta empire.

---

[1] *Bombay Gazetteer*, Vol. I, pt. ii, p. 522.
[2] *Indian Antiquary*, Vol. XXXII, p. 221.

Publications—(i) *Epigraphia Indica.*

Four parts of the *Epigraphia Indica* were issued during the year, *viz.*, part viii of Volume XVI and parts ii, iii and iv of Volume XIX. Besides the index to Volume XVI and the continuations of two contributions, these parts comprise twenty-eight articles which were contributed by several scholars, Indian as well as European. Of these, the eighth part gives three, of which the one contributed by Dr. L. D. Barnett deals with the two Kanarese records of the Kādamba prince Kīrttivarmadēva. They were found in the temple of Madhukēśvara which is standing at Banavāsi, a decayed village in the Sirsi *taluk* of the North Kanara district of the Bombay Presidency. This village, it may incidentally be remarked, represents the Banavāsi or Banavāsa which was the seat of a splendid royalty in ancient days and, as remarked in my former report, was known to Ptolemy, the well-known Greek geographer. One of these inscriptions belongs to the reign of the Chāḷukya monarch Sōmēśvara I and is dated in Śaka 990. The other ascribes itself to the time of Permaḍi-dēva Vikramāditya VI. Both show that, at the time when they were written, Banavāsi-1200 was governed by the Kādamba *Mahāmaṇḍalēśvara* (feudatory) Kīrttivarmadēva, the son of Taila or Tailapa, who flourished from 1068-69 to 1077-78 A. D. The record connected with the reign of Vikramāditya VI refers to the history of his feudatories, *i.e.*, the Kādambas of Hāngal, beginning with Chaṭṭuga or Chaṭṭa who received the title of *Kaṭakada-gōva*, (*i.e.*, the guardian of the camp), from the Chāḷukya king Jayasiṁha II. Dr. Barnett has also contributed another interesting article which deals with the six Kanarese inscriptions from Kōḻūr and Dēvageri ranging in dates between the first half of the 10th and the 13th centuries of the Christian era. The major portion of this article has come out in the fourth part, but as it runs on to the fifth part, which came out after the expiry of the year under review, the notice of its contents is reserved for the next report. The other noteworthy article, which appears in the eighth part of the XVI Volume, deals with the astronomical details given in the second plate of Bhāskararavivarman from Tirunelli and clearly proves that the reign of Bhāskararavivarman must have commenced some time after October 948 A. D., but not before. In the remaining parts, which came out within the year, appear three articles by Rai Bahadur Daya Ram Sahni, one dealing with the Mathurā Pedestal Inscription of the Kushāṇa year 14. This record, the author points out, is the first Kushāṇa inscription written in the early Brāhmī script which quotes the month of its date by the Hindu solar name instead of by the name of the season which is usually given in the other Brāhmī epigraphs of the period. Of the seven Kushāṇa inscriptions from Mathurā, with which he deals in another article, only one gives the name of the ruler, *viz.*, Huvishka, and the other, which is dated in the year 22, he thinks, was installed in the reign of Kanishka, while the third which is dated in the year 84, he would ascribe to the reign of Vāsudēva. These documents give names of some hitherto unknown monasteries of Mathurā. The Āhār stone inscription, edited by the same author, is a collection of ten separate documents giving their own dates, one of which refers to the reign of Bhōjadeva, apparently, of the Pratihāra dynasty of Kanauj. They mostly record the

acquisition of land or houses or sale deeds on a long lease of 99 years effected from the revenues of a temple of the goddess Kanakadēvī at Tattānandapura by some goldsmiths and others for the upkeep of the sanctuary. The inscription on the Jējūrī plates, which Professor D. R. Bhandarkar has edited in these parts, is the earliest known record of King Vinayāditya. It is dated in the Śaka Saṁvat 609 (A. D. 687) and supplies authentic information regarding the conquest of the Pallava, Kaḷabhra and other kings by the said Chāḷukya ruler. Professor R. D. Banerji, in one of his papers published in these parts, deals with the copper-plate grant from Kalvan in the Nāsik district of the Bombay Presidency, which, he thinks, was issued by Yaśōvarman, a feudatory of the Paramāras, during the period of anarchy that followed the fall of Bhōja I and the occupation of Mālwā proper by Karṇa, the king of Tripurī. This document states that the Gaṅga chief Rāṇaka Amma granted certain lands for charitable purposes after hearing the exposition of the *Jaina-dharma* from the Śvētāmbara Āchārya Ammadēva which convinced him of the superiority of that doctrine over other *dharmas*. The charter is not marked by the Paramāra emblem of Garuḍa and snake, has no date and makes no mention of the reigning suzerain. The other paper by the same author treats of the Patna Museum plates of Sōmēśvara II, the son of Jasarāja II, who was the nephew and successor of Sōmēśvara I, son of Jasarāja I of the Chōḷa lineage. The inscription which these plates bear, describes Sōmēśvara II as *sakala-kōsal-ādhīśvara* but calls him a *mahāvyūhapati* and *rāja-rāṇaka*, which would show that he was only a subordinate ruler. Rai Bahadur Hiralal has contributed a paper on the Amōdā plates of the Haihaya king Pṛithvīdēva I, dated in Chēdi-saṁvat 831. In dealing with the record he has shown the necessity of examining inscriptions from a broader point of view not limiting the investigations to historical, linguistic or similar questions only. In bringing out the admixture of the non-Aryan element in the Haihaya kingdom both in the royal house and the general population from the contents of this document, he has convincingly shown how inscriptions can be made to yield data very valuable for ethnographical investigations. Mr. K. V. Subrahmanya Ayyar has contributed an interesting article on the Takkōlam inscription of Rājakēśarivarman. In discussing the contents of this document, he has correctly identified the donor *Māramaraiyar maganār Piridipadiyār* with the Gaṅga king Pṛithvīpati II, the son of Mārasiṁha, and Rājakēsarivarman with the Chōḷa king Āditya I, and brought out the importance of it for the fixing of the date of accession of Āditya I in A. D. 870 or 871. In doing so he has clearly shown how the various dynasties holding sway in Southern India, such as the Pallava, the Gaṅga, the Bāṇa, the Pāṇḍya or the Rāshṭrakūṭa, stood towards one another in the beginning of the 9th century and what contributed to the establishment of the Chōḷas of the Vijayālaya line. The inscription incised on the Rithapur plates of Bhavattavarman is an important document edited by Mr. Y. R. Gupte. It belongs to the Nala family whose records are very rare. The late Mr. Sewell in his *Lists*[1] *of Antiquities of the Madras Presidency* speaks of another inscription of the dynasty which he saw at Pōḍāgaḍh. The contents of that record are briefly noticed in

[1] Vol I, p. 317.

the *Annual Report on South Indian Epigraphy* for the year ending 31st March 1922, where a facsimile of it is also given. It belongs to the 12th year of the son of the Nala king Bhavadatta who, on palæographical grounds, might be ascribed to the 5th century of the Christian era. The Rithapur inscription, on similar grounds, the editor says, may be relegated to about the same period. The name of the donor Bhavattavarman, which it gives, might be the Prākṛita form of Bhavadatta of the Pōḍāgaḍh inscription, though to be definite, further proof is wanted. Of the remaining contributions, mention may be made of the more important ones. Mr. Rangacharya edits two records of the Pallava king Rājasiṁha-Narasiṁhavarman II, one from Mahābalipuram and the other from Panamalai; Mahāmahopādhyāya Padmanātha Bhattacharyya publishes two of the missing plates of the Kāmarūpa king Bhāskaravarman from Nidhānpur; Mr. Haldar edits the Sōhāwal copper plate of Mahārāja Śarvanātha which is the earliest known charter of that ruler and is dated in the year 191, apparently, of the Gupta era; and Mr. Ramayya Pantulu rectifies some of the errors in the notes on the Bezwada Pillar Inscription of Yuddhamalla which appeared in Volume XV of the *Epigraphia Indica*. In his article on two copper-plate inscriptions of the two Eastern Chāḷukya princes, Bādapa and Tāḷa II, one from Ārumbāka and the other from Śrīpūṇḍi, the late Mr. K. V. Lakshmana Rao has proved that, as Bādapa was an ally of the Rāshṭrakūṭa king Kṛishṇa III and ousting Amma II, ruled the Vēṅgī country after A. D. 970, no interregnum was possible there at that time. Two stone inscriptions from Pañchadhārala, dated in Śaka Saṁvat 1325 and 1329, have been edited in these parts by Dr. J. Nobel of Berlin. One belongs to the reign of the Kōṇa king Chōḍa III, the son of Bhīma and grandson of Chōḍa II. It records the construction of a *gōpura* and the laying out of a grove at the entrance to the Dharmaliṅgēśvara temple at Pañchadhārala. According to it, Chōḍa II helped the Sulṭān of Pandua in routing the Emperor of 'Ḍilli' (Delhi). This Sulṭān, the author identifies with Iliyās Khwāja Sulṭān and the Emperor of 'Dilli' with Fīrōz Tughlaq. The second inscription furnishes the genealogy of the later Eastern Chāḷukyan king Viśvēśvara to nine generations and records the setting up of an idol of Vishṇu in the Upēndravar-āgrahāra. It also refers to the king's overcoming an Āndhra army at Sarvasiddhi, as well as to the foundation of the town of Rājamahēndra (the modern Rajahmundry on the Gōdāvarī) by Rājarāja I, and of Chōḍamalla by Upēndra II (Rājaśēkhara).

(ii) *South Indian Inscriptions.*

During the year under review, Volume VI of the South Indian Inscriptions was printed and issued under the editorship of Mr. K. V. Subrahmanya Ayyar, Superintendent for Epigraphy. This volume marks the completion of the publication of the epigraphical collections in the Madras office made during the years 1897 to 1899. Out of the 992 inscriptions, of which the texts are given in it, 545 were copied in those years and 447 subsequently when the damaged estampages were replaced and the readings of some of the inscriptions verified from the stones themselves. In addition to the texts of all these records, Mr. Ayyar has given references to 224 epigraphs which were also copied during these years but

were published in the *Epigraphia Indica, Indian Antiquary, Epigraphia Carnatica, etc.* Of these 992 inscriptions, 202 are Tamiḻ, 737 Telugu, 36 Oriyā, and 17 Kanarese. The bulk of the Telugu inscriptions of this collection came from Siṁhāchalam in the Vizagapatam district and on account of the roughness of the engraved surface had to be read directly from the stone by the late Rao Bahadur Krishna Sastri and Mr. C. R. Krishnamacharlu. A considerable number of these records, Mr. Ayyar had to examine *in situ* during the course of this year.

The fourth or the last part of Volume III of the *South Indian Inscriptions Series* has also been published during the year. This part gives a general introduction including the table of contents, the list of plates, the *addenda* and *corrigenda* and the index to the entire volume. In addition, it contains a critical edition of two Pāṇḍya and seven Chōḷa copper-plate inscriptions, together with the appropriate prefaces and translations into English. The whole of the introduction and the edition of the two Pāṇḍya grants from Śiṉṉamaṉūr were prepared by the late Rao Bahadur H. Krishna Sastri and the rest is the work of Mr. Ayyar. The introduction gives a succinct account of the achievements of the early members of the Chōḷa dyanasty beginning with Vijayālaya up to Rājēndra-Chōḷa I, including the account of the conquest of Ceylon by Rājarāja I and by his son and successor, namely, Rājēndra-Chōḷa. As a result of these conquests Ceylon formed part of the Chōḷa empire for several years and was, consequently, known by the name of Mummaḍi-Śōlamaṇḍalaṁ after the surname Mummaḍi-Chōḷa of Rājarāja I. The description of the seizure by Rājēndra-Chōḷa I of the 'beautiful crown and the pearl necklace of Indra' that had been deposited by the Pāṇḍya king with the ruler of Īḻam or Ceylon given in this inscription agrees with the literary account given in the *Mahāvaṁsa*. The introduction further recounts the naval exploits of Rājēndra-Chōḷa across the Bay of Bengal, in Prome or Pegu, Śrī-Vishaya (or Vijaya) or Pālambang in Sumatra and other places, which would prove beyond doubt that he must have had a formidable fleet to cross the Bay and go to the Far East, routing the foes who opposed him, and winning large booty as well as expanding his territories. The Pāṇḍya grants from Śiṉṉamaṉūr in the Periyakuḷam *taluk* of the Madura district were fully discussed by the late Rai Bahadur V. Venkayya in the *Annual Report on South Indian Epigraphy* for 1906-07 but they are published for the first time in this part. These, studied along with the Veḷvikuḍi[1] grant of Neḍuñjaḍaiyaṉ and the Madras[2] Museum plates of Jaṭilavarman, supply a fairly trustworthy genealogy of the Pāṇḍyas from the early king Kaḍuṅgōn down to Rājasiṁha Pāṇḍya, the contemporary of the Chōḷa king Parāntaka I, who flourished about the commencement of the 10th century A. D., and as such are invaluable for the history of the Pāṇḍya kingdom of Southern India.

Epigraphical work done in different Circles.

Nothing of epigraphical interest was reported in the Frontier and Northern Circles and in the Archæological Section of the Indian Museum, Calcutta. Mons.

[1] *Epigraphia Indica*, Vol. XVII, pp. 291 ff.
[2] *Indian Antiquary*, Vol. XXII, pp. 57 ff.

Charles Duroiselle has kindly furnished me with the following interesting account of the epigraphic work done in the BURMA CIRCLE.

"Only four lithic inscriptions were brought to light this year. One was found at Min-nan-thū, near Pagan, and was brought to my notice by Professor Pe Maung Tin of the Rangoon University. It was recovered from the *débris* of a ruined brick shed within the compound of an old dilapidated temple known as the "Winidho (Vinayadhara) Temple." It bears two dates, 1224 A. D. and 1256 A. D., and belongs, therefore, to the latter half of the 13th century." "This inscription records the dedication of land and of slaves for the maintenance of the monastery and ordination hall (*sīmā*) of a monk known as Vinaya-thera, which indicates that he studied especially the *Vinaya-piṭaka,* and this is confirmed by his better known style of Vini-dhor (Vinaya-dhara). This dedication was made in honour of the Buddha, the Dhaṁma, the Saṅgha and the body of the scriptures, the *Tripiṭaka.* As is usually the case in these documents, the names of the districts wherein the dedicated lands were situated are given ; and it is interesting to note—in some cases—the very great distances separating those lands from the objects of their dedication ; they were not, in the majority of cases, close to the buildings to the maintenance of which their revenues were affected. The dedication of slaves to pagodas and temples was, as evidenced by numerous inscriptions, a very common practice. This is the more interesting when one considers the absence of caste and class prejudices among the Burmese people. A study of the inscriptions seems to point out that the persons who really came under the designation of 'slaves,' in the full meaning which this word evokes in the western mind, were prisoners of war, their children and descendants, and those who had been actually bought for a stipulated sum of money ; and yet, much degradation does not seem to have been attached to this state, except when such slaves were dedicated to temples or monasteries, in which case they became outcasts and were debarred from social intercourse with the rest of the people. This particular state of slavery was hereditary, a stigma lasting through the ages, which no amount of wealth subsequently acquired (and there were not a few cases) could remove. The effects resulting from such a state of things have endured up to now. The aversion of the Burmese for the descendants of ancient pagoda-slaves is well-known to those who have closely studied these otherwise amiable people. The pagoda-slaves were mostly recruited, with, of course, some exceptions, from prisoners of war and bought-slaves, which no doubt accounts for the fact that a very large number of the names of such unfortunates as are given in inscriptions, have a foreign ring to the Burmese ear, and are not indeed of pure Burmese origin. Among such names, are doubtless those of Indian, Talaing, Pyu, Shan, Chin, Kachin and Manipuri slaves. The numerous and extensive wars in which the kings of the Pagan dynasty were engaged in the 11th and subsequent centuries, were responsible for the great number of these slaves. For instance, after the swoop of the Pagan king Anorata on the deltaic region in 1056-57 A. D., there were, as is well known, very large settlements of Talaings, Pyus and Indians in, and especially round about the Burmese capital. The majority of these settlers

must have been slaves as testified to by inscriptions. The following are a few of the non-Burmese names found in the 'Wini-dho' inscription: Nga Manta, Pihlu, Chatsana, Binī, Pahlu, Rumū, Hatā, Nga Sati, Kula Pu. A careful study of the names of persons would be interesting in that it would give us a better clue than we now possess to their nationality.

"The second inscription was found while clearing the *débris* in front of a ruined temple near Myin-Pagan. It bears three dates; 1210 and 1215 A. D.[1] Information was received from Mr. J. A. Stewart, I. C. S., Commissioner, Magwe, of the existence of two inscribed stones at Sagu, in the Minbu District, which record the foundation of a pagoda by a queen of Narapati, King of Ava (1443-1469).

"There were also discovered in Hmawza short epigraphs containing extracts from the *Piṭakas*, one inscribed on a gold plate and the rest on terracotta votive tablets,[2] and a small bronze image of the Buddha, with the Sanskrit version of the Buddhist creed inscribed round the pedestal.[3]

"Terracotta votive tablets bearing effigies of Buddha arranged in rows on the obverse face, and legends in Pāli in Old Burmese characters were also discovered at Pagan in course of excavations. Another interesting find from Pagan is a small image of the Buddha in burnt clay, discovered at Pagan, with a short inscription around the pedestal in Pāli language in praise of the Buddha Vessabhū. It is written in Burmese characters of the 12th-13th century.[4]

Epigraphia Birmanica.

"After a long but unavoidable delay, the third volume, part II, of the *Epigraphia Birmanica* has now been issued. As has already been noticed elsewhere, it contains the Talaing (Môn) version of the Pāli text of the Kalyāṇī inscriptions of Pegu (XVth century) engraved on several large stones. This is one of the most important documents extant for the history of Burma, political and ecclesiastical; it is a valuable epitome of the development of Buddhism in this country. The lithic text, the continuation of which was broken owing to missing portions of the stones, has been completed and supplemented by a somewhat more modern translation in the same language of the Pāli text, which itself is very scarce in Burma. The text is illustrated with twenty-four plates.

"In the course of the last few years 330 new inscriptions were found in Burma, ranging from the 12th century to modern times. It is now intended to make a volume of them, and already 110 have been deciphered. A good number of them bear directly or incidentally on the history of Burma. The interest of the majority of them is, however, philological, as they contain a large number of old words and forms now long fallen into disuse. A list of these words, so important for the history of the Burmese language, is being drawn up in the course of decipherment, and several hundreds have already been gathered."

---

[1] *See* p. 112.
[2] *See* p. 107—109.
[3] *See* p. 108.
[4] *See* p. 110.

The Officiating Superintendent of the EASTERN CIRCLE reports that all the inscriptions incised on the six out of the whole lot of the sixty-five Buddhist bronze images discovered at JHEWARI in the Chittagong District are 'short dedicatory records written in characters of 9th to 11th century A. D.' The names of the monks Guṇadatta, Śubhadatta and Kumārabhadra, who is described as a follower of the 'Great-Vehicle' or Mahāyāna, are mentioned in them as donors. Regarding the two inscriptions incised on the stone slabs found during the year at a place called ḌHUPĪ, 23 miles to the north-east of Sylhet in Assam, he states :—

"Both of them record the consecration of a Siva-*liṅga*, called Rāmēśvara, on a certain Kāpōtaka hill, by King Rāmasiṁha who, in one of the inscriptions is called Śrī-Jayantīpurēndra, *i.e.*, the lord of Jayantīpura. Rāmasiṁha is evidently, Rāmasiṁha II of the royal family of Jayantiyapur and Rāmēśvara, the same idol for the maintenance of which the king granted some land by his Ḍhupī[1] copper-plate charter, dated Śaka 1720. It should be noted, however, that the copper plate places the consecration of the Śiva-*liṅga* Rāmēśvara in the Śaka year 1720, whereas in the stone inscription it is assigned to the Śaka year 1719."

In the CENTRAL CIRCLE the most important epigraph excavated by Mr. Page at NĀLANDĀ is the stone inscription which seems to be associated with the foundation of a shrine of Tārā. It has already been noticed in the beginning of the summary. The legend written on what is described as a bone die in Nāgarī characters of about the 8th or 9th century A. D. might be read as *Satyapā*. The other inscription deserving a casual notice is engraved on a stone lying in the MAHĀDEVA TEMPLE at KODAL in the Damoh district of the Central Provinces. It is a late mediæval document and records the construction of a Śiva temple in the Vikrama Saṁvat 1399 during the reign of one MAḤMŪD by a private individual belonging to the KA(CHHA)VĀHA family. Who this Maḥmūd was is not certain but the date would suggest that he might have been the pretender Ghiyāṣu-d-dīn Maḥmūd.

The inscriptions copied by the Superintendent of the WESTERN CIRCLE do not require any special mention save one which was found in the *débris* of a Jaina temple in the FORT at BELGAUM. It is a record of the installation of an image of Nēminātha, the 22nd Jina, by a Jain ascetic named Nēminātha who was the preceptor of one Maṇichandra whom it calls 'a Moon to the ocean of the RĀSHṬRAKŪṬA dynasty.'

The Assistant Archæological Superintendent for Epigraphy, SOUTHERN CIRCLE, copied 22 copper-plate and 547 stone inscriptions during this year. The copper-plates mostly relate to the VIJAYANAGARA and even later times and only one of them requires notice in this résumé. It belongs to the time of the ŚAILODBHAVA KING DHARMARĀJA and, palæographically, may be ascribed to about the 10th century A. D. In describing the ancestry of the donor it resembles the Pārikud grant of Madhyamarājadēva which has already been published in the *Epigraphia Indica*.[2] Dharmarāja's victory at Phāsikā to which reference has been made

[1] Gait, *J. A. S. B.*, 1895, pt. i, p. 245 and K. M. Gupta, *ibid.*, *N. S.*, Vol. XVIII, 1922, pp. 73-79.

[2] Volume XI, pp. 281 ff.

in the Kōṇḍeḍḍa[1] plates is also alluded to in this record. The object of the inscription is to register the gift of Nivinā-*grāma* in the Kshiṅgahāra-*vishaya* to a Brahman of the Vatsa-*gōtra*.

Of the stone inscriptions copied by the Assistant Archæological Superintendent for Epigraphy during the year, there are several which deserve a brief notice here. Under this category come the two old epigraphs at Lālguḍi in the Trichinopoly district of the Madras Presidency. One of them states that the Pāṇḍya King Varaguṇa-Mahārāja granted some money for burning a perpetual lamp in the temple of Mahādēva at Tiruttavatturai. Another record engraved near it gives the date as 'in the year opposite to the 4th year' and mentions Teḷḷāṟṟerinda Nandipōtavarmaṉ. Usually the records of Māraṅjaḍaiyaṉ Varaguṇavarmaṉ adopt this method of dating. Therefore this inscription, too, might belong to his reign. If so, it would show that Teḷḷāṟṟerinda Nandipōtavarmaṉ was a contemporary of Varaguṇa I, a surmise which is further strengthened by the fact that both these kings flourished about the beginning of the 9th century A. D. It may incidentally be stated here that the Teḷḷāṟṟerinda Nandipōtavarmaṉ mentioned in the record is identical with the Pallava king Nandivarman III. The other noteworthy inscription at Lālguḍi is engraved on a hero-stone which is marked by a human figure transfixed by an arrow. It ascribes itself to the 21st year of Nandipōtavarmaṉ, the victor of Teḷḷāṟu and purports to record the death of a Brahman named Śattimuṟṟattēvaṉ at the hands of the soldiers of the Bāṇa king Māvali who attacked the priests defending a Śaiva *maṭha* attached to the temple of Ariñjigai-Īśvaram at Parāntakapuram. Teḷḷaṟṟerinda Nandipōtavarmaṉ, it may be observed, flourished about 810 A. D. and Parāntaka ruled between A. D. 907 to 953. Besides, Ariñjaya was the son of the latter. Therefore, for an inscription of the time of Nandipōtavarmaṉ to mention Parāntakapuram and Ariñjigai-Īśvaram would be an anachronism which would throw doubt on the genuineness of the record itself. Otherwise, it should be treated as a copy of an older record slightly altered to give the current names of the *puram* and the sanctuary mentioned therein. In any case, the record is interesting in revealing to us, for the first time, the enmity which existed between the Bāṇas and the Pallavas at the period. In this connection, it is to be remembered that the five Bāṇa records from Gudimallam which the late Rai Bahadur Venkayya edited in the *Epigraphia Indica*[2] clearly show that the former held a subordinate position under the latter during the reigns of Dantivarman, Nandivarman and Nṛipatuṅgavarman.

Out of the inscriptions of the Āḷupa kings, which were secured this year from the South Kanara district, only three require special mention. One of them, which is lying at Kōṭa, is written in characters of about the 9th century A. D. and refers to the death of the servant of Juddhamalla (*i.e.*, Yuddhamalla) in battle when Raṇakisara marchèd against Udayāpura (modern Udiyavara). It would appear that this Juddhamalla was an Āḷupa king who is not known to us from other sources. No details are given in regard to the family to which this

---

[1] *Ibid.*, Vol. XIX, pp. 265 ff.
[2] Vol. XI, pp. 222 ff.

Raṇakisara belonged, but it can safely be surmised that he was the Śāntara chief Raṇakēśa, who flourished about that time and whose territory was contiguous to that of the Āḷupas. The inscription thus supplies us with the interesting information regarding the attack of the Śāntara chief Raṇakisara on the Āḷupa king Juddhamalla, about which little was previously known. The other inscription is of KULAŚĒKHARA ĀḶVA and was found at NĪLĀVARA. It is dated in the Śaka year 1087. The third noteworthy inscription also belongs to this chief and is lying at VARĀṄGA. It speaks of Mādhava-Chandra, Prabhā-Chandra and Śrī-Chandra-yati who were apparently Jain teachers of repute at that time.

Other inscriptions worthy of notice here are the CHŌḶA records of the 13th century belonging to the reigns of KULŌTTUṄGA and VIKRAMA-CHŌḶA. They were found in the Rāmnād district and purport to register political compacts between certain chieftains 'to safeguard their life, honour and possessions.' These records give us an idea of the state of unrest which prevailed at the time in this part of the country. In this connection, it may also be mentioned that one of these inscriptions, which belongs to the reign of Vikrama-Chōḷa, makes an express provision for the family of the soldiers who shed their blood in battle.

MOSLEM EPIGRAPHY.

By Mr. Ghulam Yazdani.

During the year under report some forty new inscriptions have been copied and edited for the *Epigraphia Indo-Moslemica*. Among these the ten found at Raichur are of very great historic importance for the town was long a bone of contention between the Hindu *rājās* of Vijayanagar and the Musalman Kings of the Deccan and the inscriptions throw light on contemporary events. For example, the epigraph carved on the Shāh Burj (Royal Tower) of the Raichur Fort, first contains a quotation from the *Qur'an*[1]

إِنَّا فَتَحْنَا لَكَ فَتْحاً مُبِيناً

("*Verily We have given thee a manifest victory* :")

and afterwards mentions that the Tower was built one year after the victory over infidels—

بعد فتح کافران یلک
سال بود ۹۷۳ھ

thus keeping a contemporary record of the famous battle of Talikoṭa in which the Musalman forces completely routed the army of the Vijayanagar ruler, RĀMARĀJA.

Two other inscriptions of Raichur are important as proving the fact that the first two rulers of the 'ĀDIL SHĀHĪ dynasty did not assume the title of royalty till the demise of Maḥmūd Shāh Baihmanī in 924 H. although having been tired of the influence of Amīr Barīd, the *maire du palais* of the King, they had declared themselves independent. In these two inscriptions the name of MAḤMŪD

[1] Chapter XLVIII, verse 1.

Shāh occurs with full regal titles while their own names have simply the honorific khān عادل خان بن عادل خان referring to Yūsuf and Ismā'il whom later historians have dubbed with the titles of یوسف شاه and اسمعیل عادل شاه

Another inscription, coming from Raichur, is interesting as showing the Shiite tendency of the 'Ādil Shāhī King, Ibrāhīm II, who associated even a bastion with the name (علی بن ابی طالب the son-in-law of the Prophet Muḥammad, whom the Shiite hold in special esteem.

Another epigraph from the same place may interest students of the Persian language, for its text is a queer jumble of Arabic and Persian—

نمایة وکاکین متصله الیه
بشرط ان یصرف مشعله
العمار و الراج و الماء
برسر ربیع الاخر سنه ۱۹۲ھ

Two inscriptions,[1] copied from the Mughulpura quarter of the Hyderabad City, are important as representing calligraphy of a very high order. The Quṭb Shāhī Kings of Hyderabad were great patrons of learning and art and their liberality attracted a large number of artists and scholars from Persia. The names of Persian calligraphists occur frequently in the inscriptions of Hyderabad and these two inscriptions also by the similarity of their style seem to be the work of Persian artists.

Mr. G. C. Chandra, Archæological Superintendent, Western Circle, sent during the year several inscriptions for decipherment one of which found at Dohad[2] is important as mentioning the building of a town by Maḥmūd Shāh of Gujarat,[3] who was fond of laying out towns, but the building of a town near Dohad is not mentioned in contemporary history.

Mr. R. S. Saksena of Gwalior has kindly sent three inscriptions from Chanderi, two of which belong to the reign of Dilāwar Khān Ghorī, the founder of the Ghorī dynasty of Malwa, and the third to the rule of his illustrious son, Hoshang Shāh, who built the Great Mosque of Mandu. As Chanderi was the scene of a continuous strife between the Chandelas of Bundelkhand and the Kings of Malwa these inscriptions are important in fixing with certainty the dates of the Moslem supremacy of that town.

Mr. K. N. Dikshit, Archæological Superintendent, Eastern Circle, has reported the discovery of an inscription of Husain Shāh of Bengal in the Murshidabad District. The estampage of another inscription of this King has been received from the Secretary, Varendra Research Society, Rajshahi. As the inscriptions of Ḥusain Shāh are scattered over a large territory and only few of them have been edited so far, they will throw fresh light on various aspects of the history of that period when published in chronological order with due regard to their geographical positions.

---

[1] An inscription in the Golconda Fort similarly shows that Sulṭān Qulī, the founder of the Quṭb Shāhī dynasty did not assume the title of royalty till the death of Maḥmūd Shāh Baihmanī II, in 924 H. (1518 A. D.). *Vide E I. M.*, 1913-14, pp. 147-48.

[2] Dohad, the birth place of Aurangzeb. The jungle in its vicinity is well known in Mughal history for elephant shooting.

[3] He ruled from 1459-1511 A.D.

Five *Sanads* were received from the Mysore State for decipherment and translation. As they were ordinary land grants and did not contain any information of historical value it was not thought necessary to publish them in the *Epigraphia Indo-Moslemica.* But the texts of the *Sanads* were deciphered and translated and sent to the Mysore State.

The Assistant Archæological Superintendent for Epigraphy, Southern Circle, also sent two inscriptions for decipherment and translation. One of these relates to the building of an Observatory in the days of the Honourable East India Company and the other was a religious text from some modern buildings.

SECTION IV. MUSEUMS.

INDIAN MUSEUM, CALCUTTA.

By Rai Bahadur Ramaprasad Chanda.

Galleries.

The most important work carried out in the Archæological Section of the INDIAN MUSEUM, Calcutta, has been a rearrangement in the GUPTA GALLERY by the replacement of the old benches in the bays and the plain brick pedestals in the open space by benches and pedestals with simple mouldings (Pl. LIII, *a*). This new type of brick benches have also been erected in the Gandhara Gallery, the Muslim Gallery and the southern verandah.

Acquisitions.

Antiquities other than coins acquired during the year 1928-29 number 1,295. Mr. A. F. O. Murray, Mining Engineer, Tatanagar, has presented a fine collection of PIGMY TOOLS of quartz and quartzite from DHALBHUM. This collection includes many known types of such tools including gravers (burins) with striking platform (Pl. LIV, *c*, fig. 3), side scrapers (Pl. LIV, *c*, figs. 6 and 7), keeled scrapers (Pl. LIV, *c*, fig. 4), points (Pl. LIV, *c*, figs. 2, 5, 8 and 9), and single shouldered points (Pl. LIV, *c*, fig. 1). These Dhalbhum tools closely resemble the pigmy tools discovered on the site of an old Neolithic settlement near Ranchi by Mr. W. H. P. Driver in 1887, the chert flakes found by Captain Beeching at Chaibasa in the Singbhum District in 1868, and the pigmy flakes from the Jubbulpur District, Central Provinces.[1]

The Director General of Archæology has enriched the collection of pottery and terracotta objects of the historical period by lending for exhibition pottery and terracotta objects unearthed by the Department at KURUKSHETRA,[2] KOSAM,[3] AHAR,[4] ROKHARI,[5] BILSAR,[6] CHAITRU,[7] and AMB.[8]

Among the sculptures of stone and brass acquired during the year a few deserve notice here. One of these is a sandstone image of BRAHMĀ (2′ $4\frac{3}{4}''\times$ 1′ $2\frac{1}{2}''$) from BENARES. The god is seated on his *vāhana*, the duck, in easy posture with the right leg hanging. In his right upper hand he holds the sacrificial spoon, in the right lower hand a string of *rudrāksha* seeds, in the left upper hand a book (the Veda), and in the left lower hand a vessel.[9] This image is a

---

[1] Coggin Brown, *Catalogue of Prehistoric Antiquities in the Indian Museum*, pp. 129, 132, Plate VIII.

[2] *A. S I.*, 1921-22, pp. 46-50.

[3] *Ibid*, pp. 45-46.

[4] *A. R. S., H. and B. Monts., N. C.*, 1925-26.

[5] *Ibid.*

[6] *A. S. I.*, 1922-23, pp. 93-96 and 1923-24, pp. 56 and 57.

[7] *A. S. I.*, 1924-25, p. 50.

[8] *A. R. S., H. and B. Monts., N. C.*, 1921, p. 6.

[9] *A. S. I.*, 1922-23, pp, 141 and 142.

fine specimen of later Gupta sculpture (Pl. LIII, *b*). From Benares also has been acquired another notable sculpture on a reddish sandstone slab (1′ 8½″×12½″) assignable to about the 10th or 11th century A. D. It is divided into two compartments by a tree. To the right of the tree is a standing figure of BHAIRAVA holding a staff crowned by a skull. To the left is a votary who is performing the special form of worship known as *ārati* by ringing a bell with his left hand and waving a lamp with his right hand. A dwarf or a child stands between the two figures in an attitude of worship (Pl. LIII, *c*). The third sculpture is a ten-armed image of DURGĀ MAHISHAMARDINĪ of chlorite schist (5′ × 2′ 3″) in almost perfect state of preservation from DULMI, District Manbhum, in Bihar and Orissa. In her right upper hand she holds a sword lifted up for striking the enemy. The attributes in her other four right hands respectively are, an arrow, a thunder weapon, a discus and a trident with which she is piercing the chest of the Asura that has issued out of the decapitated body of the buffalo. The attributes in her five left hands are, a bow, a battleaxe, a goad, a serpent and shield (Pl. LIV, *a*).

The late Maulvi Muhammad Sefatullah of Berhampur, Special Sub-Inspector of Schools in charge of Maktubs in the Murshidabad District, presented a sandstone slab (12½″×9½″) bearing a PERSIAN INSCRIPTION which is thus transcribed and translated by Maulvi Shamsuddin Ahmad, Assistant Curator :—

بسم الله الرحمن الرحيم

فقير طالب صوفي مريد مرتضوي - زروشن است اوصافش بمهر مصطفوي بساخت خانهٔ

احقر بصدق روح قوي - خز ذكست سنينش زهاتف غيبى ندا بگوش دل آمد كه مسجد غربي -

سنه ۱۲۱۲ هجري

(*Translation*).

"In the name of God, the merciful, the clement.

"Fakir 'Talib, the mystic (*sūfi*), the follower of Ali, whose attributes are the rays of the sun, the Prophet, has built a tiny house with the sincerity of a powerful (virtuous) soul. Judgment sought for its date from the guardian angel in the invisible region. A voice whispered in the mind's ear that it was the mosque 'Gharbi' (western). Year 1212 A. H. (=1796-97 A. D.)."

Pearse Collection of Gems.

The most important acquisition of the year is the PEARSE COLLECTION of engraved gems (Pls. LV, LVI), antiquities and coins lent by the Director General of Archæology. The engraved gems which fill a very conspicuous gap in the collection of antiquities in the Archæological Section of the Indian Museum consist of Greek, Roman, Assyrian, Persian and Indian gems procured by GENERAL G. G. PEARSE in India and include 472 intaglios and 15 cameos. Greek gems procurable in India early attracted the attention of European visitors. General Pearse in his manuscript catalogue (p. 261) draws attention to the following passage in George Forster's *Journey* :—

"In the collection of a gentleman at Benares are several valuable antiques, which were purchased by the merchants of that city : one of which representing

a matron, is cut in a manner bearing every mark of Grecian skill; and another exhibited Cleopatra in the act of being bitten by the asp. The same gentleman had in his possession a Medusa's head, on an emerald, found also at Benares, which being sent to England, was unreservedly acknowledged to be the work of a Grecian or Roman master. Some years ago, a high finished Camaieu was procured at Guzerat, whereon Hercules slaying the Nemean lion, was executed with much taste and spirit."[1]

Cunningham refers to the statement of William Vincent relating to "the Archbishop of York's emerald engraved with a Medusa's head of Grecian sculpture and brought from Benares."[2] James Todd was the first to publish an illustrated account of what he termed "an ancient Hindu Intaglio" which he found in possession of his friend, Mr. Thomas Parry, who, when Judge and Magistrate of Etawah and Mainpuri, purchased it from a person who said it came from Jaipur.[3] This intaglio shows Hercules to right standing naked, head diademed, his right hand holding out a figure of victory and his left resting on the club. The word *Aja* is engraved in Brāhmī characters of the Kushān period to the left of the figure. James Prinsep notices a chalcedony agate seal discovered in the vicinity of *Ujain* and presented to him by Lieutenant E. Conolly on which was engraved in Kushān Brāhmī characters :—

Sri-Vatikhuddasya

"(the seal) of Śrī Vati Khudda." Prinsep adds, "It is rather uncertain whether the second letter be not open to bottom, in which case it will read Bhati."[4] General Ventura who was in the service of Maharaja Ranjit Singh in the Punjab, and who opened the Manikyala Stupa, presented to James Prinsep some beautiful seals which the latter did not live to publish.[5] Lieutenant Conolly, in his "Note on Discoveries of Gems from Kandahar,"[6] notices fifteen engraved gems found at Kandahar and other places in Southern Afghanistan. He also notices "cylinders like those of Babylon, with arrow-headed inscriptions" (cylinder seals) unearthed near Herat.

The most detailed contribution on ancient engraved gems procurable in India is Cunningham's article, "Description of some Ancient Gems and Seals from Bactria, the Punjab and India."[7] In this article the author notices twenty-three engraved gems. Ten of these gems (Nos. 1-10) he classes as Bactrian and writes :—

"As these gems represent mythological persons of ancient Greece, they must have been brought into India from the North-West, and as many gems are yearly discovered in ancient Bactria, I have little doubt that these, and indeed all gems purchased in India which bear Grecian subjects must have come originally

---

[1] George Forster, *A Journey from Bengal to England*, etc., London, 1798, Vol. I, p. 47.

[2] William Vincent, *The Commerce and Navigation of the Ancients in the Indian Ocean*, London, 1807, Vol. II, p. 760.

[3] Tod, "Comparison of the Hindu and Theban Hercules, illustrated by an ancient Hindu Intaglio," *Transactions of the Royal Asiatic Society of Great Britain and Ireland*, Vol. III, 1835, p. 139.

[4] *J. A. S. B.*, Vol. VI (1837), p. 680, Pl. XXXVI, fig. 23.

[5] *Ibid*, Vol. VII (1838), p. 968.

[6] *J. A. S. B.*, Vol. IX (1840), pp. 97-99.

[7] *J. A. S. B.*, Vol. X (1841), pp. 147-57.

from ancient Bactria, the seat of the nearest Grecian colony, and where we know, from the beauty of the earlier Bactrian coins, that the arts must have flourished in the greatest perfection."

Two of these Bactrian or Indo-Greek gems in CUNNINGHAM'S COLLECTION were procured from Benares, one from Delhi (?), one from Lucknow, one from Amritsar, and one from Kabul. The gem from Kabul is a carnelian. It bears a standing male figure wearing a *dhoti* in Indian fashion and holding a trident, evidently intended to represent the Hindu god, Śiva, though carved in Greek style. It bears the Kharoshṭhī inscription, *Jasavatisa*, '(the seal) of Yaśovatī.' Nos. 11-14 Cunningham classes as Sassanian. No. 11 was procured at Amritsar, and Nos. 12 and 13 were sent to Prinsep from Persia. The rest of the gems dealt with by Cunningham are classed by him as Hindu and bear inscriptions in Gupta and Post-Gupta characters. One of these (No. 15), evidently acquired in the Punjab by General Ventura, is a plain thin carnelian, "bearing a beautiful female head to the right, the hair plaited in two braids over the fore part of the head, and gathered into a large bow at the back, where it is tied by a ribbon, the ends of which float behind. Her shoulder is covered by a robe, from the midst of which her right hand appears, holding a lotus flower before her face." Below the female bust is this inscription in Gupta characters :—

Keśavadāsasya

"(The seal) of Keśavadāsa."

Lovers of the glyptic art who are interested in its Hellenistic phase and its development in ancient India and Persia should now turn for materials to the PEARSE COLLECTION purchased in a happy moment by Sir John Marshall on behalf of the Government of India, which his successor, Mr. H. Hargreaves, has recently handed over to the Indian Museum. The whole career of GEORGE GODFREY PEARSE of Godfrey House, Cheltanham, was in a way dedicated to the collection, preservation and interpretation of the gems and coins procurable in India. He entered the Madras Artillery (F. Battery, 20th Brigade, Royal Artillery) as second Lieutenant in June, 1845. When the second Sikh War broke out in 1848 Lieutenant Pearse was despatched to the Punjab. He took part in the abortive first siege of Multan in September, 1848, in the battle of Soorajkund early in November in which Mulraj lost his field guns, and in the second siege of Multan which led to the capitulation of the city on January 22, 1849. In all these operations Lieutenant Pearse distinguished himself and was mentioned in despatches. After the annexation of the Punjab Pearse was appointed an Assistant Commissioner and posted at Bannu. He served as an Assistant Commissioner in the North-West border of the Punjab till the outbreak of the Indian Mutiny in 1857. Though in civil employ, he took part in the Khagan and Black Mountain Expeditions during the North-West Frontier Campaign of 1852. During the Mutiny he was severely wounded at the battle of Narnoul. He took part in the siege and capture of Lucknow at the head of the 3rd Sikh Cavalry and was with the Azamgarh field force in the pursuit of Koer Singh and in the expedition into Jagadispur. It was during his service as Assistant Com-

missioner in the Punjab from 1849 to 1857 that Pearse acquired the bulk of the engraved gems in his collection. In the General Preface to his manuscript *Catalogue Raisonné* of the Pearse Collection of Antique Gems, Pearse writes :—

"I have much confidence in the Glyptic Art. I see what the gems of Greece, Rome, Etruria, Nineveh, Babylon, Sicily and Egypt have done to elucidate the history, religion, arts, manners and customs of those countries. But I am aware that it required great knowledge of varied kinds to bring out the full value derivable from them.

"2. In India I saw men of great talent partially elucidating by coins, by ancient manuscripts, by ancient structures, etc., the history, religion, manners, customs, etc. of that country. But I saw that no one was attempting to do so by the rich mine that lies in gems. I felt myself utterly incapable to do so in a creditable manner, but I had the advantage of being on duty in Hazara in the Northern Punjab, a district which has always been on the highway of the conquerors of India, and where more gems are procurable than in any other place of the same size in India ; I therefore determined to make a collection of gems and to do my best by their means in assisting to elucidate some knowledge of Ancient and Mediæval India. For that purpose I have sacrificed many of my best coins, besides time, labour and money. And I hope that this collection may be the nucleus of a larger one which in the future may assist learned men to make known many an interesting and till then unknown fact of the past of the greatest English dependency.

"3. This collection as yet has been formed mainly from materials collected in Northern India. The people who procure and sell these gems are travelling goldsmiths who also pick up coins and cheat the wild mountaineers with false jewellery, but who are invaluable to collectors for they are able to penetrate to places closed to all others. This collection is not the fruits of one point ; on the contrary the Punjab, Scinde, Northern India, Cashmere, Central Asia, Afghanistan and countries up to the borders of Persia, Turkey and Russia, have sent specimens to it."

While in England in 1868-69 Pearse undertook the compilation of the manuscript Catalogue. In this work he received the assistance of C. W. King, author of *Antique Gems and Rings* and other well known works on the glyptic art, in dealing with classical gems, and of Edward Thomas, F. R. S., in dealing with oriental gems. Other authorities to whom Pearse acknowledges his indebtedness are, Sir Alexander Cunningham, N. S. Maskeleyne, head of the Geological Department of the British Museum, and Gaston Fenardent of the firm of Fenardent and Rollin of Paris and London. C. W. King examined the Pearse collection first in 1868 and writes about its extent :—

"The foregoing conclusions have lately (May, 1868) been strongly confirmed by the inspection of about two hundred gems, all collected in the Punjab during a residence of many years. They present a most heterogeneous mixture, commencing with Ninevitish cylinders, and including many late Roman and one Gnostic. Sassanian stamps and ring-stones in that peculiar style, whether

original or imitative, formed the majority. But of unmistakable Greco-Indian work I could only discover one example, a warrior spearing a prostrate enemy, in the field a bent bow and flowers."[1]

Later on Pearse devoted himself to enlarging his collection of antique gems from India by purchase from other collectors. He writes in his Preface (p. 7), "In the years 1873 and 1874, I became possessed by purchase of the larger part of the collections of Majors Strutt and Hay formed like my own on the annexation of the Punjab. Of course I am immensely pleased at these acquisitions." The collections of General H. Van Cortlandt, under whom Pearse served in the Punjab, and General Sir James Abbott, were laid under contribution to augment the Pearse collection. As late as 1891 Pearse purchased a gem (345D) from Messrs. Spink & Company, because "it came from India." But in the meantime want, as he frankly admits in the Catalogue, compelled him also to part with a few.

With the growth of the Pearse Collection went on copious additions and alterations in the Catalogue. The latest addition is a letter from Sir J. C. Robinsons of February 7, 1895, relating to gems with Greek inscription meaning "remember" (p. 130). In a Memorandum dated, London, Christmas, 1894, prefixed to "Valuable papers regarding the Pearse Collection of Antique Gems from India," Pearse writes :—

"The collection is the only one of any magnitude of its kind.

"I have made a very perfect Catalogue Raisonné of that collection, which I hope may never leave our family, but should it ever do so, the Catalogue Raisonne and this book of letters having reference to them should decidedly go with the Cabinet of Gems.

"I consider the Cabinet of Gems should be kept intact, as such it is very valuable to students, etc. If scattered, the atoms have little significance."

This collection of papers includes original letters from C. W. King (largest number), Cunningham, Rajendralal Mitra, Edward Thomas, Sir James Abbott, Nevil Maskeleyne, J. Eggling, H. L. Nelthropp, G. Fenardent and others. In a note dated Cheltenham, 31st July 1869, prefixed to the Catalogue, Pearse writes :—

"I have in my Will mentioned how I wish this Collection of Antiquities should be disposed of, at my death. I trust it may not leave the family. The same is my desire with reference to the collection of Coins. Both having especial reference to the Ancient History and Civilisation of Northern India should not be separated but should remain together. They mutually assist one another in elucidating those matters."

Not long after writing this note Pearse sailed for India and was wrecked in P. & O. *S. S.* "Carnatic" in the Red Sea in September 1869. In his letter dated Cannanore, India, 4th May 1871, addressed to C. W. King, Pearse writes, "I lost in it thousand pounds worth of things but you will be happy to hear, I had left my Collection of Gems and Coins at my father's house in Cheltenham." His Will with all other papers that he had with him was also lost. In another

---

[1] C. W. King, *Antique Gems and Rings*, London, 1872, Vol. I. p. 91 note.

note dated Dover Castle, 24th February 1873, written on the same page of the Catalogue as the note of the 31st July 1869, Pearse writes :—

"Since the above was written, I have been wrecked in the P. & O. *S. S.* "Carnatic" in September 1869. My will with all else I had with me was lost. I have as yet made no fresh will—I wish as before that the collection, now one of the best extant should not get broken up, but should remain as a family heirloom, and if ever disposed of, should go "*en bloc*" as a present to some great Museum or Institution, *viz.*, Calcutta Museum, *or* Royal Asiatic Society, London, *or* Calcutta Asiatic Society, *or* India Museum, London." General G. G. Pearse's wishes have been fulfilled. His collection of gems and coins with his *Catalogue Raisonné* and papers have at last been deposited in the institution, Indian Museum, Calcutta, to which he assigns the place of honour in his list.

All types of engraved gems ever manufactured in Western Asia, from Assyrian Cylinders to Indian seals with modern Nagari inscriptions, are represented in the Pearse collection. Seventy-nine of these gems[1] are reproduced in Plates LV and LVI.

The collection includes three ASSYRIAN seals, one flat scaraboid and two cylinders. One of these latter, reproduced in Plate LV, No. 1, shows a king worshipping Ashur above the magic tree protected by two monsters; the god Marduk stands on the other side of the tree. In No. 2, a Persian seal of the early Achæmenian period, a man is fighting with winged unicorns. No. 3 is an octagonal cylinder found at the site of Taxila with the figure of Cupid carved on one side. It was evidently once covered with gold and used as a pendant.

Nos. 11 and 12 are two of the finest GREEK gems in the collection assignable to the 4th century B. C. No. 21 bearing a fine bust of Victory with palm branch in right hand is a Greek work assignable to the following century. Nos. 4-10, 13-14, 16-20 were evidently produced in the Greek Kingdom of Bactria. Nos. 19 and 20 are very fine specimens of Hellenistic portraiture. The latter reminds one of the conjugate busts on the coins of Heliokles and Laodike, Strato and Agathokleia, and Hermæus and Calliope, though of decidedly superior workmanship. According to Pearse, C. W. King recognised in this conjugate bust King Diodotus I of Bactria and his Queen. The figure of the old man walking with a stick in No. 15 is a Roman work.

Of far greater interest to students of Indian Archæology must be the gems in the Pearse collection with INDIAN subjects and inscriptions in Indian characters. The ten following gems bear inscriptions in Kharoshṭhī characters :—

[1] The materials of which these gems are made are thus identified by Pearse :—

(1) Sapphirine Chalcedony. (2) Green Jasper. (3) Brown Chalcedony. (4) Sard. (5) Sard. (6) Pebble. (7) Balais ruby. (8) Sard. (9) Carnelian. (10) Sard. (11) Beryl. (12) Sardoine (opaque Sard). (13) Pebble. (14) Yellow Sard. (15) Sardonyx. (16) Sard. (17) Pale Sard. (18) Sard. (19) Golden Sard. (20) Jacinth. (21) Sard. (22) Carnelian. (23) Garnet. (24) Garnet. (25) Chalcedony. (26) Chalcedony. (27) Bitumen. (28) Sard. (29) Sardonyx. (30) Chalcedony. (31) Carnelian. (32) Carnelian. (33) Carnelian. (34) Onyx. (35) Sard. (36) Brown Chalcedony. (37) Brown Chalcedony. (38) Onyx. (39) Pale Sard. (40) Crystal. (41) Sard. (42) Carnelian. (43) Sard. (44) Sard. (45) Agate. (46) Carnelian. (47) Sardonyx. (48) Pale Sard. (49) Carnelian. (50) Crystal. (51) Crystal. (52) Rock Crystal. (53) Almandine Garnet. (54) Garnet. (55) Indian Onyx. (56) Carnelian. (57) Carbuncle. (58) Almandine Garnet. (59) Jacinth. (60) Almandine Garnet. (61) Onyx. (62) Crystal. (63) Pebble. (64) Agate. (65) Sard. (66) Carnelian. (67) Carnelian. (68) Sard. (69) Carnelian. (70) Amethyst. (71) Sard. (72) Yellow Onyx. (73) Yellow Onyx. (74) Onyx. (75) Hematite or Nephrite. (76) Red Jasper. (77) Green Jasper. (78) Carnelian. (79) Carnelian.

(22) Standing female deity in Greek attire to right; holds in both hands cornucopia like the female deity on some of the coins of Kanishka and his successors and named Ardoksho in the accompanying legend; figure of a child to right behind the deity. Kharoshṭhī inscription to the right :—

Lakaṇa(?)*sa*

"(The seal) of Lakshmaṇa (?)."

(23) Fine figure of a horse to left; taurine symbol below the head of the horse. Kharoshṭhī inscription :—

Kapilasa

"(The seal) of Kapila." The letter *ka* is engraved behind the tail of the horse and *pilasa* above.

(24) Two nude standing male figures. Kharoshṭhī inscription to the right :—

Badasa (?)

"(The seal) of Bada."

(25) Constellation Sagittarius. There is a longish inscription which has not yet been deciphered.

(26) Fragment showing the fore-part of a flying monster (Pegasus ?). Below Kharoshṭhī letters—*pa ya ba pa*.

(27) A walking bull on one side and a walking bird on the other. Kharoshṭhí letters *bha bha tha* above the figure of the bird.

(28) A bust to right with traces of a Kharoshṭhī inscription.

(29) A man in Indian attire seated beneath a tree. Kharoshṭhī letters *ba* and *ga* may be recognised to the left of the head.

(30) A man in Indian attire seated to right with a small fire altar in front of him. To the left of the figure is a Kharoshṭhī inscription :—

Taruvaladasa

"(The seal) of Taruvalada."

(31) A Śaka warrior with pointed head dress. Kharoshṭhī inscription to the left :—

Titasa

"(The seal) of Titus."

Of the five legible Kharoshṭhī inscriptions on the five gems, the one on No. 23 (*Kapilasa*) ends in *sa*, of which the upper loop is closed. The *sa* in all other four inscriptions (Nos. 22, 24, 30 and 31) has open loop. The former type of *sa* characterizes the Kharoshṭhī legends on the Indo-Greek and Indo-Scythian coins, whereas *sa* with open loop invariably occurs in the Kharoshṭhī legends on the coins of the Kushān kings.[1] Therefore seal No. 23 may be assigned to the second or first century B. C. and the other four seals to the Kushān period (first and second centuries A. D.).

[1] *Cf.* Majumdar, p. 171 *infra*.—Ed.

The uninscribed gems (Nos. 32-49) that follow in Plate LV, with a few exceptions, are also assignable to the KUSHĀN PERIOD. Two of the notable exceptions, No. 37, a seated Śaka king to whom a vassal is offering a torque, and No. 45, a Śaka spearing an enemy, were probably engraved in the first century B. C. Nos. 32-34 show that Ardaksho occupied a dominant place in the Kushān pantheon. She appears on the coins of the Gupta emperors as Lakshmī. The fine figure of four-armed and three-headed Śiva seated on the bull (No. 36)[1] is a worthy companion of Vishṇu engraved on a gem with a barbaric Greek inscription of the Kushān type published by Cunningham.[2] These and the portrait heads and figures on the Kushān gems show that the Indian gem cutter of the period was ahead of the coiner and the sculptor in artistic skill.

Gems of the succeeding GUPTA PERIOD in the Pearse collection are of no less importance :—

(50) Head of king to right with laurel wreath round the head, and ear-rings. To the right side there is an inscription in Gupta character of which the first letter is *na* and the last letter is *pta*. Two intermediate letters are illegible. This head closely resembles the king's head on the crystal seal with the Brahmi inscription *Shane* published by Cunningham.[3]

(51) Head of king with the inscription, *Raja Sthaminavardhana*, in characters of the Gupta period. Pearse notes, "I secured this gem from General Cunningham for £7."

(52-54) Heads with the identical inscription in Gupta characters, *Bijala*. These seals appear to bear the portrait head of the same person in different periods of his life.

(55) Lion with the inscription, *Sapabantaḥ* (?).

(56-57) Fire altars, *ka* in the field. Below, *Rāja Tori*.

(58) Inscription, *Kṛishṇasa*, "the seal of Kṛishṇa." The sign before *kṛi* resembles a *ja* of too archaic a type to suit the other letters.

(59) Inscription, *Sribhavitavyam*.

(60) Inscription, *Akadasya*.

(61) Inscription, *Jīvajayā*.

(62-63) Inscription on both the gems *Salāna* (?).

(64) Inscription, *Somadāsa*.

Gem No. 65 shows a conventional *Makara* figure usually found in the sculptures of the later Gupta period. The female bust on Nos. 66 and 67 holding a lotus flower in right hand is identified by Pearse with the Persian goddess *Nanaia* and recognized as Sassanian work evidently with the approval of Edward Thomas. But Cunningham's gem No. 15 referred to above (p. 133) bears a similar bust and an inscription in Gupta characters. Therefore Nos. 66 and 67 are probably Indian works. Nos. 72-74 are very fine specimens of Indian cameos.

The Pearse collection includes a large number of SASSANIAN gems with old Pehlevi inscriptions, which have yet to be deciphered. Cameo No. 68 and

---

[1] King, *Antique Gems and Rings*, Vol. I, pp. xvi, and 314.
[2] *Numismatic Chronicle*, Vol. XIII, 1893, p. 126 ; Pl. X, 2.
[3] *Ibid.*, p. 126 ; Pl. X, 1.

nt aglios Nos. 69-71 are reproduced as specimens of Sassanian portraiture. Among seals with ARABIC inscriptions the following five deciphered by Maulvi Shamsuddin Ahmad, Assistant Curator, are reproduced :—

(75) A Talisman (not deciphered).

(76) Arabic inscription, هو الله احمد ابن احسن الله "He, the God, Ahmad ibn Ahsan-ullah."

(77) Arabic inscription, الهم لما قصا "Beyond what one can desire."

(78) Arabic inscription, ان العبد الذليل محمد علی يعقوب بن الخليل "I, the mean slave, Muhammad Ali Yakub ibn al-Khalil."

(79) Arabic inscription, مَنْ عَرَفَ نَفْسَهُ عرف رَبَّهُ "He who knows his own self knows his Lord God."

The PEARSE COLLECTION OF COINS is of no less importance and includes 5,083 coins of which 3,221 are South Indian. The Muhammadan and the non-Muhammadan South Indian coins have been identified by Maulvi Shamsuddin Ahmad, Assistant Curator, and the non-Muhammadan North Indian Coins by Babu Paresh Nath Bhattacharya, Officiating Assistant Curator. The following Indo-Greek coins of the Pearse collection are reproduced in Plate LVI, 1-5, for comparison with the engraved gems :—

(1) Diodotus under Antiochus II. Silver. Obverse : Head of Antiochus II to right diademed.
Reverse: ΒΑΣΙΛΕΩΣ on right downwards, ΑΝΤΙΟΧΟΥ on left downwards. Zeus, nude, striding left, aegis on extended left arm, right raised wielding thunderbolt, at his feet left eagle ; in field left ⅄

(2) Diodotus II. Gold.
Obverse : Head of king to right diademed.
Reverse : Zeus as in No. 1. To right downwards [Β]ΑΣΙΛΕΩΣ, to left downwards ΔΙΟΔΟΤΟΥ.

(3) Euthydemus I. Gold.
Obverse : Head of king to right diademed.
Reverse : In dotted circle naked Herakles seated to left on rock, grasping with his right hand his club, lower end of which rests on a pillar of stones ; to right ΝΗ. To left downwards ΒΑΣΙΛΕΩΣ, to right downwards ΕΥΘΥΔΗΜΟΥ.

(4) Demetrius. Silver.
Obverse : Bust of king to right diademed (without elephant's scalp); bead-and-reel border.
Reverse : Apollo seated on omphalos to left ; left hand resting on bow and right hand holding an arrow ; a quiver full of arrows on the back and another between the thighs. To left downwards ΒΑΣΙΛΕΩΣ, to right downwards ΔΗΜΗΤΡΙ[Ο]. In exergue—[Ω]ΤΗΡΟΣ

(5) Eukratides Silver.

Obverse : Bust of Eukratides to left, diademed and helmeted, showing bare back and shoulders ; spear in right ; bead-and-reel border.

Reverse : The Dioskouroi, wearing pilei and carrying palms, prancing on horseback to right, with spears at rest, above, ΒΑΣΙΛΕΩΣ ΜΕΓΑΛΟΥ in exergue ΕΥΚΡΑΤΙΔΟΥ.

Coins other than those belonging to the Pearse collection acquired during the year number 186 of which 154 are Muhammadan and 32 non-Muhammadan (*see* Appendix I).

Taxila Museum.

The new TAXILA MUSEUM, of which a description was given in last year's report,[1] was opened to the public on the 5th April, 1928, the opening ceremony being performed by the Hon'ble Khan Bahadur Sir Muhammad Habibullah, K.C.S.I., etc., Member for Education, Health and Lands, and attended among others by the Secretary for Education, Mr. G. S. Bajpai, C.I.E., C.B.E., and some fifteen Members of the Legislative Assembly. The museum is to be open to the public on week days and Sundays between the hours of 10 a. m. and 5 p. m. except on the First Monday in each month, when it is closed for cleaning purposes. Admission on Mondays, Wednesdays and Fridays is free. On Tuesdays, Thursdays and Saturdays the admission fee is two annas ; on Sundays, four annas per head.

New quarters for the Police guard, designed in accordance with the requirements of the local Police force, have been erected at a cost of Rs. 3,876-12-0, and the quarters previously occupied by the guard have been allotted to the new museum attendants.

During the year under review the Curator and his clerk were mainly engaged on the preparation of a card catalogue of the objects exhibited in the museum to replace the register hitherto maintained of these objects, wherein the objects were entered as received from the diggings. The new cards, which number 6,722, constitute the first step towards the systematic classification and cataloguing of the collections. The whole work is being done under Sir John Marshall's personal supervision and a full descriptive account of all the more important antiquities will be included in his projected book on Taxila.

Exclusive of coins, the objects exhibited in the museum fall into the following main classes :—

Sculptures and other objects of stone	664
Sculptures and other objects of stucco	1,054
Terracottas and pottery	2,105
Gold and silver objects	185
Copper, bronze and iron objects	1,067
Beads	742
Glass and miscellaneous	419
Ivory, bone and shell	430
Gems and seals	56
	6,722

[1] *A. S. I.*, 1927-28, pp. 153-156.

Of the antiquities added to the collection during the year under review the most interesting are described in Sir John Marshall's article entitled "Excavations at Taxila" in the Exploration Section of this Report.[1]

Besides the antiquities enumerated above there are numerous objects from the excavations which have not been deemed worthy of exhibition and are kept in the godowns of the museum.

For the convenience of visitors, two comfortable and well proportioned seats of polished teak and leather, capable of seating twelve persons, have been provided for the public galleries.

In the museum garden, a number of small groups of cypresses were planted with the idea of breaking up the severely bare appearance of the building, and a further improvement was effected by laying down a low stone kerb on either side of the semicircular approach in front of the museum and of the pathways which intersect the quadrangle behind it.

The sum of Rs. 969 was realised from the sale of admission tickets, and photographs to the value of Rs. 99-6 were sold to visitors.

PESHAWAR MUSEUM.

By M. Dilawar Khan.

Antiquities added to the Museum during the year under report included a stone relic casket, a small copper Buddha image, a brass piece depicting the Tutelary Couple, a stone slab containing a fragmentary Kharoshṭhī inscription (No. 50) and a very fine sculpture (Pl. LVIII, *a*) depicting the Visit of Indra to the Buddha (No. 51), which were purchased from the Museum funds. The last named sculpture has a Kharoshṭhī inscription (Pl. LVIII, *c*) on its pedestal, dated in the year 89 of an era. A large earthenware vessel (which probably relates to the Kushān period as the two monograms impressed near its mouth are similar to those on the coins of the Kushān kings), and some stucco heads which are said to have come from the Khyber Pass were presented by Sir Norman Bolton, Chief Commissioner, North-West Frontier Province.

Four silver coins of Aurangzeb, of which three were presented by the Director of Industries, Central Provinces, and one by the Government of the United Provinces were added to the collection. Sixty-three copper coins were received from the Punjab Government through the Superintendent, Archaeological Survey, Frontier Circle, of which five were of Akbar and the rest belonged to the Suri dynasty of Delhi, *viz.*, thirty-two of Sher Shāh, twenty-four of Islām Shāh and two of Muhammad Ādil Shāh.

"The Revised Handbook to the Sculptures in the Peshawar Museum" by Mr. H. Hargreaves, Officiating Director General of Archaeology in India, referred to in last year's report was in final proof at the end of the year under report.

Two hundred and twenty-one antiquities in various show cases were provided with gilt and painted wooden labels.

[1] pp. 51-66.

A brief account of antiquities Nos. 50 and 51 referred to above seems called for, No. 50, measuring $7\frac{1}{2}'' \times 6''$ is a single line of seven Kharoshṭhī letters deeply and neatly cut on a fragment of a stone slab. It was found at KĀNIZA-DHERI, an ancient mound situated near the village of Umarzai in the Charsada Tahsil of the Peshawar District, by villagers when digging for manure. It contains only a portion of a date and reads '*masasa di 20 4 1, i.e.*, the 25th day of the month........"

No. 51 is on the pedestal of a very fine and elaborately executed Gandhāra sculpture, No. 1944, depicting as already stated, the Visit of Indra to the Buddha. The sculpture itself measures $30'' \times 29\frac{1}{2}''$ and the inscription, 28 inches, incised in a single line of shallow characters. Some of the letters are missing in the middle of the line. It was found at MAMĀNI-DHERI, a small hamlet crowning a small ancient mound in the Charsada Tahsil.

Estampages of the inscription were sent to Professor Dr. Sten Konow, who reads it as follows :—

Text.

saṁ 20 20 20 20 4 4 1 Ma[rga]śirasa masi 4 1 iśe
kshunami niryaïde ime deyadhar[me] Dharmapriena
shamanena ———————— *[puyae] upajayasa*
Budhapriasa puyae samanuyayaṇa arogodakshinae[1]

Translation.

"Anno 85, in the month of *Mārgaśiras*, the 5 (day), at this term was bestowed this religious gift by the śramaṇa Dharmapriya, in honour of......[2] in honour of his teacher Buddhapriya, for the bestowal of health on his fellow-disciples."

According to Konow the date 89 must be referred to the Kanishka era, *i.e.*, it corresponds to A. D. 216. Touching the style of the relief, Mr. H. Hargreaves, Officiating Director General of Archæology in India, who examined it during his visit to the Museum in December last writes as follows[3] :—

"From the modelling of the face of the Buddha, and the treatment of the hair and drapery it is plain that the relief must be assigned to a period when the school was in its full vigour, and is proof that long after the time of Kanishka the artist of Gandhāra could, at least in stone, execute works of considerable merit and employ with peculiar appropriateness a great part of the repertory of the school. Although the human figures Buddha, Pāñchika, Vajrapāṇi, Indra and Pañchasikha are all conventionalized, skilful composition and the greatest technical skill are still displayed, and it is impossible to deny the charm and fidelity with which the artist has depicted the trees, birds and beasts of the Buddha's sylvan retreat."

[1] This inscription and a small reproduction of the sculpture have been already published by Dr. Konow in *C. I. I.*, Vol. II, Part I, *Kharoshṭhi Inscriptions*, pp. 171-72, Pl. XXXIV, but in order to give them wider publicity it has been thought well to reproduce them in this report and make them more accessible to Indian scholars. Mr. N. G. Majumdar suggests that before the word *upajayasa* the missing word is not *puyae* but *arogadakshinae* of which the letters – ·——*dakshi*——œ are still traceable.—[Ed.]

[2] See note 1; 'for the bestowal of health on......' should perhaps be substituted.—[Ed.]

[3] Hargreaves, *Handbook to the Sculptures in the Peshawar Museum*, p. 51.

TAJ MUSEUM.

By Mr. B. L. Dhama.

A few pieces of rare Mughal China discovered in the Agra Fort in course of excavation, and an old photograph of the Taj, taken from the Judge's house, purchased from Mr. J. K. Johnson, I.C.S. (retired), at the instance of Sir John Marshall, were added to the collection. Most of the exhibits were re-arranged and faded and soiled labels changed.

DELHI FORT MUSEUM.

By Mr. B. L. Dhama.

During the year under review several improvements were effected. The old decayed *purdahs* were removed and replaced by new ones. Two teakwood showcases were prepared, in one of which arms have been displayed and in the other antiquities which it had not been possible to exhibit before. The different sculptures and inscriptions kept in the verandah outside in the main hall are being sorted and arranged in a stystematic order, and descriptive labels are being prepared for them.

Eleven gold and twenty-seven silver coins, two Mughal pictures and a bronze 'celestial sphere' were received on loan from the Director General of Archæology.

Amir Timur is represented in one of the pictures, clad in a blue coat of brocade with a short sleeved vest over it, sitting on a golden chair on a river bank is haloed and he wears a white turban crowned by a *kalghi* and holds in his right hand a spear. Before him stand two young men, one of whom attired in military dress with a helmet on his head, is in a supplicatory posture as if he were awaiting some orders from the king, while the other man wearing a long coat and white turban has his hands crossed on his waist. An oblong quiver is suspended from his waist. Behind the chair stand two royal attendants, one of them holding over the king an *aftabgir* [1]. In the back ground on the left are shown several domed buildings probably representing a city or palace. The plant and floral decorations on the borders of the portrait are artistic and the picture is a good specimen of Indo-Persian Art. On the top of the inner border of the painting is written in Persian the title of the picture which reads as follows :—

> "Picture of His Majesty Amir Timur, the King, the Lord of the happy conjunction."

In the second picture is Sultan Shuja seen seated on a carpet spread over a marble platform, his back being supported by a blue bolster decorated with bands embroidered with a floral design. He wears a green coat embroidered with gold with a sash tied around his waist after the Mughal fashion. The turban, which is of a light green colour, is also embroidered with gold. In front

[1] A Mughal standard shaped like palm-leaf fan and sometimes bearing the sun's face embroidered on it.

of Shah Shuja is seated a lady, probably his wife, who appears to offer him a drink in a small cup placed on a tray. On the left of the lady are flowers, fruits and sweets in small trays and a few flasks, all placed on a white cloth. Close to the above are scent sprayers and scent bottles in a casket. Behind the lady are two women singers, one of whom, in the background, is playing on a guitar while the other in the foreground is seen clapping.

For the following account of the bronze Celestial Sphere (Pl. LVIII, *b*) I am indebted to Maulvi Ashfaq Ali, Gallery Assistant, Delhi Fort Museum.

" It measures 8¼" in diameter and has a pair of holes to enable it to be screwed to the horizontal iron stand, 2 feet 2 inches high, which accompanies it. It bears an inscription in Persian *naskh* which runs as follows :—

Text.

بفرمایش شیخ عبدالخالق عمل محمد صالح تته وی سنه ۱۰۷۰

Translation.

" At the instance of SHAIKH ABDUL KHALIQ (it was) made by MUHAMMAD SALIH of TATTA in 1070 (=1659-60 A. D.)."

The sphere, though made of bronze, has traces of gilt on its surface and shows all the twelve signs of the zodiac in very clear words engraved on it. The names of the signs are :—*Burj-i-Ḥamal* (Aries), *Burj-i-Thaur* (Taurus), *Burj-i-Jauzā* (Gemini), *Burj-i-Sarṭān* (Cancer), *Burj-i-Asad* (Leo), *Burj-i-Sumbulah* (Virgo), *Burj-i-Mīzān* (Libra), *Burj-i-'Aqrab* (Scorpio), *Burj-i-Qaus* (Sagittarius), *Burj-i-Jadi* (Capricornus), *Burj-i-Dalw* (Aquarius), *Burj-i-Ḥūṭ* (Pisces).

A peculiarity of these signs of the zodiac is that each of them is represented by a human figure or the figure of a bird or of an animal and, in addition to these, there are engraved on the sphere quite a number of minor figures. The stars are all beautifully marked with silver dots, which being on a gilt surface greatly enhance the beauty of the object."

SARNATH MUSEUM.

By Mr. M. S. Vats.

Antiquities affected by damp were chemically treated, iron bands from two colossal Kushāṇa statues removed and their back supports made less obstructive. A better arrangement for lighting has also been made by the substitution of pale ivory buff for green colour-wash on the walls of the Museum.

Quarters for the Custodian and servants were constructed during the year under report.

The total expenditure on the maintenance of the Museum and staff amounted to Rs. 3,313-13-0.

NALANDA MUSEUM.

By Mr. J. A. Page.

Some of the more interesting of the additions made to the Museum during the year are detailed below :—

Those from MONASTERY SITE No. 4, Deva-Pāla level, included a bronze image of the BUDDHA (height 8″) seated in *Bhūmisparśamudrā*, on a lotus throne; a bronze image of AVALOKITEŚVARA (height $4\frac{1}{8}$″) seated on a lotus throne and holding a lotus in the left hand; a bronze image of standing TĀRĀ (height $5\frac{1}{2}$″) in *varadamudrā* with the head and halo broken off; a bronze image of seated KUVERA (height $2\frac{1}{2}$″); a small votive STUPA in bronze (height $4\frac{3}{8}$″) complete with crowning umbrella and containing in a little niche on one face a tiny seated image of Buddha, and a stone image of the seated BUDDHA inscribed on the back (height $2\frac{1}{2}$″). Below this stratum almost the only finds made were a handful of *cowrie* shells, a few small pieces of crystal, and a gold coin of KUMĀRA GUPTA MAHENDRA I of the Imperial Gupta Dynasty. His date is 413-455 A. D., but the presence of his coin here is not conclusive evidence for a date of the remains in which it was found, since the remains may have been in existence well before the time when the coin was dropped here (though other evidence makes this improbable) or as is more likely they may date from some subsequent period, since the coin is of such a nature as to lead to its being hoarded long after it was coined. It was found immediately above the earliest concrete pavement of the verandah in the north-east corner of this same Monastery No. 4, and is remarkably well preserved.

Other objects of interest from this site were a few heavy iron padlocks of which one of rectangular shape and another cylindrical were found complete with keys; an iron lamp-stand on three feet, much bent, and measuring twenty-eight inches high; and an iron censer seventeen inches long, broken in two pieces. These again were from the Deva-Pāla structure.

MONASTERY SITE No. 7 was the only other site to yield antiquities this year. The principal of these from the Deva-Pāla stratum were a bronze image of seated KUVERA (height $3\frac{3}{8}$″), the upper part of a broken stone tablet beautifully carved with the conventional life-scenes about a central image of the BUDDHA; a number of terracotta plaques impressed with BUDDHA figures and sealings; and a fragment of an inscribed stone.

All the bronzes are more or less damaged by fire or corrosion and they are being treated by the Archæological Chemist. Illustrations of three of the images found last year that have been so treated in the year under review appear in Pl. LVII, *a-c*.

LAHORE FORT MUSEUM.

By Khan Bahadur Maulvi Zafar Hasan.

One of the conditions, under which the LAHORE FORT has been transferred to the Archæological Department, was that a small museum should be maintained within the Fort to contain exhibits connected with the Fort itself or with Lahore. Accordingly the collection of arms and armour of the SIKH PERIOD, housed in the Shish Mahal, were made over by the Deputy Commissioner, Lahore, to the Archæological Superintendent, Frontier Circle, at the end of March, 1928 to form a nucleus of the proposed museum. The collection is really very

interesting, and represents almost all kinds of arms and armour used formerly by Sikh soldiers, including drums, banners, *Kirpāns* (daggers), *Chakkars* (iron rings edged outside), etc. The southern *dalan* of the Shish Mahal, where the collection is at present displayed, being too small for this purpose, it is proposed to shift the exhibits to the building known as Bari Khwabgah in Jahangir's Quadrangle. This arrangement will also have the advantage of restoring as far as possible the Shish Mahal, which is the most important palace in the Lahore Fort, to its original condition. A start has, however, been made by laying down a new floor of Indian Patent Stone[1] in certain rooms of the Bari Khwabgah, and providing six wall cases of standard design for the accommodation of the exhibits.

MUSEUMS IN BURMA.

By Mons. Charles Duroiselle.

Fresh acquisitions made for the museums by the Superintendent, Archæological Survey, Burma, consisted of some of the objects discovered in the course of excavations during the year. They comprised images of the Buddha in stone and wood, funeral urns, fragments of stone pedestals and terracotta votive tablets. Some of these have been deposited in the Museum at Pagan, and the rest in the Museum at Hmawza. No additions were made to the list of exhibits in the Museum on the Palace platform, Mandalay.

CENTRAL ASIAN ANTIQUITIES MUSEUM, NEW DELHI.

During the year 1928-29 the collection of Central Asian Antiquities was housed in two separate buildings in New Delhi, the mural paintings from the Buddhist shrines of Central Asia being accommodated in the building originally provided for housing the complete collection of Sir Aurel Stein's three successive Central Asian explorations, and the remaining antiquities being temporarily accommodated in the upper storey of the Imperial Records Building, some 300 yards away. From April to July Mr. Moneer remained attached to the Museum as an Archæological Scholar under training and was occupied in classifying under "Subjects" and "Sites" the contents of thirty-one boxes of Central Asian antiquities, but left the Museum on the 18th of July to take up new duties in the Central Circle at Patna. During Mr. Moneer's absence and until the resumption of his Special Duty by Mr. Andrews in October 1928, all practical work connected with the organization of the Museum remained in abeyance.

Mr. Andrews began his Special Duty by engaging the services of craftsmen in connexion with the fitting up of Museum cases and stands. Mr. Moneer rejoined the Museum on 1st December 1928 and was engaged in the preparation of a list of all the fresco fragments which had been crowded out from the larger compositions hung on the walls. Mr. Andrews and Mr. Moneer also unpacked

[1] See p. 19.

fifteen cases of Central Asian antiquities and ten cases of antiquities recovered by Sir Aurel Stein in the Swat Valley and in Baluchistan.

A systematic arrangement of smaller objects in the show cases at the Record Office was not possible during the year under report, but a beginning was made and even in its incomplete condition enabled an idea to be formed of the interest of the collection (Pl. LIX).

A Photographer was deputed by the Director General of Archæology in India to prepare negatives of all the frescoes and made in all 135 negatives. Further details connected with the Museum will be found in Mr. Andrew's account under the Section " Officer on Special Duty ".

SECTION V.

OFFICERS ON SPECIAL DUTY.

Sir John Marshall.

The Director General, Sir John Marshall, was placed on special duty for a term of seven and a half years, from September 6th, 1928, to the 19th March 1936, when he attains the age of 60, the arrangement being that he is to retire at the age of 55, and be re-engaged on a new contract for the five years following. While on special duty he is to publish works on the monuments and antiquities of the following places:—Mohenjo-daro, Harappa, Taxila, Sanchi, Delhi, Agra, and Multan; he is also to bring out revised editions of his guide books to Taxila and Sanchi and to continue his excavations at the former site.

From September 6th to October 20th Sir John Marshall was closely engaged at headquarters on the preparation of the Departmental Annual Report for 1926-27, on the editing of certain Memoirs, and on other miscellaneous tasks that he had not had time to complete before handing over charge.

For the rest of the year under review Sir John's time was mainly divided between Taxila and Mohenjo-daro, twelve weeks in all being spent at the former site and 8 weeks at the latter. At Taxila he was largely occupied in directing excavations in the City of Sirkap and in superintending the work of setting up and cataloguing antiquities in the New Museum, but over and above this he made substantial headway with various preliminary tasks connected with his proposed book on Mohenjo-daro. At Mohenjo-daro itself, he was actively engaged checking and revising plans and drawings, and editing the descriptive accounts of buildings and minor antiquities contributed by various collaborators.

Between November 25th to 30th Sir John was called to Delhi in connection with the scheme of mural decorations in the New Capital and with certain matters affecting the Central Asian Museum of antiquities. At the same time—and with the approval of the Government of India—he also paid a hurried visit to Gwalior State to advise the Darbar about the Cenotaph then being erected in memory of the late Maharaja Scindia. Another brief journey of three days made by him (12th to 15th November) was along the left bank of the Indus in the Campbellpur District of the Punjab, where with the assistance of Mr. C. C. Garbett, C.M.G., the Deputy Commissioner, he was able to inspect several interesting sites included in the ancient dominions of Taxila and not previously visited by an archæologist.

A description of the excavations conducted by Sir John at Taxila is given by him in the Section of this Report on Explorations (pp. 51—66), and an account of the Taxila Museum in the Section on Museums (pp. 140—141).

Sir Aurel Stein.

After completing by the second half of April 1928 his archæological explorations in the Kalat State, Baluchistan, of which a preliminary account has been

given in the Annual Report of 1927-28, Sir Aurel Stein was kept fully occupied during the following four months by the preparation of a detailed Report on the results of those explorations. This task *inter alia* implied the close examination of some thousands of antiques, such as painted ceramic wares, terracotta figurines, stone implements, etc.; from the many prehistoric sites he had surveyed and partially excavated in that very extensive area, as well as the systematic selection and arrangement of representative specimens for reproduction in numerous plates. This heavy task was completed by the close of August when the typescript of the Report and the antiques selected for reproduction in 33 plates were transmitted from Kashmir to the Director General at Simla. This Report is to be published as Memoir No. 43 of Archæological Survey under the title "An Archæological Tour in Gedrosia". Proofs of the text extending over more than 200 pages 4to have since the close of the year been received from the Government Press, Calcutta.

During September, October and part of November, Sir Aurel was engaged upon the preparation of a detailed Report on his exploratory tour of 1926 in Upper Swat and the adjacent transborder tracts towards the Indus. With the permission of Government he had previously prepared a 'Personal Narrative' of this tour which had resulted in the discovery of numerous as yet unsurveyed Buddhist remains and in the identification of important sites connected with Alexander the Great's campaign on the Indian North-West Frontier. This volume, illustrated by numerous photographs and maps was published by Messrs. Macmillan in the spring of 1929 under the title: "On Alexander's Track to the Indus". The detailed Report on these explorations was delivered in November to the Director General and will be published as Memoir No. 42 of the Archæological Survey. Proofs of it extending over 100 pages 4to have been received since the close of the official year. Special maps recording the topographical results obtained on the same tour through the generous help of the Survey of India were prepared in 1928 at the Geodetic Survey Office, Dehra Dun, and will be published with the above Memoir.

By the 30th of November, 1928, the last extension of Sir Aurel Stein's service on special duty terminated. After that date he was permitted to avail himself of six months' leave on average allowances as earned by previous periods of duty.

In February, 1929, there was issued Sir Aurel Stein's *Innermost Asia*, the detailed report on the results of his third Central Asian expedition, published by the Oxford University Press in four volumes, Royal quarto, for the Government of India. As a proof of the interest with which this work was received it may be mentioned that notwithstanding the high price fixed for it by Government (25 guineas), all available copies were sold before the issue.

Since his arrival in England, Sir Aurel Stein has been presented with the Petrie Medal for services to archæological research, instituted by the University of London, this being its first award. It represents the latest addition to the series of honorary degrees, gold medals and other distinctions by which Universities, Academies and other learned bodies of Europe and America as well as of India have indicated their appreciation of the archæological and geographical labours

carried out by him during his thirty years' service under the Indian Government.

Mr. Fred H. Andrews.

Mr. Andrews resumed his special work at the Central Asian Antiquities Museum, New Delhi, in the last week of October 1928. During the season the work of mounting and hanging the ancient Buddhist wall-paintings was completed, the asbestos sheet backgrounds were fixed and painted and the numbering and labelling of the pictures were commenced. It was found that excellent labels could be made from asbestos sheeting cut to the necessary size, the edges bevelled, the surface enamelled black and finished with an egg-shell polish. On this, reference numbers and brief descriptions were clearly painted in ivory white and the labels were then fixed in position by round-headed brass screws. The general effect is very satisfactory.

The large number of small disconnected fragments of paintings not suitable for exhibition on the walls were given their individual serial numbers and marks of provenance, a descriptive note was written of each fragment and subsequently they were photographed for identification purposes. The fragments were then stored in cabinets with sliding shelves and are readily accessible for study. A set of photographs of the interior of the Museum, showing each wall separately and two general vistas, were taken (Pl. LIX).

All inscriptions occurring on the wall paintings were also, specially photographed. After completing the erection of the painted dome from Toyuk, a strong wooden flooring was built above it, in order that it should be adequately guarded from accident during the cleaning or repairing of the room by contractors.

The unpacking of the miscellaneous objects from the 2nd and 3rd Stein expeditions, commenced during the previous cold weather, was completed and the objects were deposited in numbered trays arranged in racks, a written record being kept of the number of the tray into which each object was put. The subsequent arrangement of the objects according to sites and material is being proceeded with by Mr. Moneer, who assisted Mr. Andrews in the unpacking. A considerable amount of pottery from Swat and Kish was also unpacked.

A pattern set of metal fittings was made to Mr. Andrews' design, for the convenient adjustment of shelves in the permanent show-cases temporarily housed in the large west rooms of the Imperial Record building, New Delhi. A pattern glass case on pedestal was also made for one of the large Astana grave animals.

Throughout the whole of the season Mr. Moneer worked side by side with Mr. Andrews in order that he might have the full advantage of Mr. Andrews' intimate knowledge of the objects and so obtain a more complete and rapid understanding of the very varied collections than would have been otherwise possible. The arrangement has proved valuable and although in such a collection the technical knowledge required for its full understanding can be acquired only after long training the opportunity of enquiring on any difficult point that arose has meant a considerable saving of time for Mr. Moneer.

Successful experiments were carried out under Mr. Andrews' instructions and direction in photographing directly from the specimens, magnified pictures of some of the early Central Asian textiles for the study of the weaving technic.

Mr. Andrews, upon his departure in March 1929, made over charge of the Museum to Mr. Moneer who had been working during the season under review and part of the 1927-28 season with him.

SECTION VI.

ARCHÆOLOGICAL CHEMIST.

During the year under review, the 1,732 antiquities detailed below were received in the departmental laboratories for their cleaning and preservation, by chemical methods :—

Mohenjo-daro (camp)	641
Harappa (camp)	344
Northern Circle, Hindu and Buddhist Monuments, Lahore	185
Central Circle, Patna	89
Eastern Circle, Calcutta	22
Director General of Archæology in India, Simla	127
Indian Museum, Calcutta	3
Central Museum, Lahore	316
Taxila Museum	5
TOTAL	1,732

Most of these objects were of copper, bronze and iron, but a large number were of silver, gold, lead, stone, pottery, faience, steatite, bone and wood. Two bronze Buddha figures from NĀLANDĀ, which were sent to Mr. Sana Ullah for their preservation, are illustrated in Pl. LXIII, as examples of the results achieved in our laboratories by chemical treatment. Apart from this work, considerable research was carried out in an endeavour to solve certain problems connected with the INDUS VALLEY CULTURE. These comprised the composition of mortars used in the buildings, the technique of pottery, faience, steatite objects, their glazes and the decay of bones.

MORTARS.

In the two previous Annual Reports the composition of four specimens of mortars from the buildings at Mohenjo-daro have been reported. Two of these were essentially composed of gypsum and sand and the others contained lime, as well. This year a specimen of mortar, found in an earthenware vat at this site, proved on analysis to consist of lime and sand but entirely free from gypsum. The composition of all these specimens is reproduced here for comparison.

Serial No.	Locality.	Gypsum.	Carbonate of lime.	Sand.	Alkaline salts.	Moisture.	Analyst.
1	Hr. site, wall	74·12	2·50	20·41	1·18	1·79	Mr. Sana Ullah.
2	Sd. site, Tank	43·75	13·78	38·04	2·47	1·96	Do.
3	Hr. site, wall	63·25	1·64	31·52	2·58	1·01	Do.
4	Sd. site, drain	56·73	24·87	16·64	..	1·76	Do.
5	Hr. site, vat	*nil*	69·58	21·71	5·44	3·27	Dr. Hamid.

Although lime mortar, free from gypsum, has not yet been discovered in the walls at Mohenjo-daro, a conical object (No. 699) has been found at Harappa, which consists of a rough cast or inner core of gypsum free from lime, and finished with a coating of pure lime plaster, on the surface. These facts leave no doubt that the use of both gypsum and lime, as plastic materials, was well-known to the Indus people. At the instance of Sir John Marshall a large number of plasters and mortars were examined by the Assistant Archæological Chemist, Dr. Hamid, in the buildings at Mohenjo-daro and they found that they were usually composed of clay and gypsum, which sometimes contained appreciable quantities of sand and carbonate of lime. This conclusion is borne out by the analyses cited above.

Pottery.

Apart from the usual red and salmon coloured pottery, which prevails in the Indus Valley sites, black and light green objects of this material are occasionally met with. A remarkable variety of black pottery, having a fine vitreous body occurs in the form of well modelled thick bangles, which sometimes bear whitish spots on the surface. Their chemical analysis (*vide infra*) shows that the whole of the iron is present as black ferrous oxide which accounts for its colour and indicates, besides, that they were fired in a highly reducing atmosphere. On the other hand, in an oxidising atmosphere, the lime, which it contains in a high proportion, would bleach the colour due to iron and produce white spots. The black glossy surface which survives on certain specimens is also due to ferrous oxide and carbon. The greenish pottery has a soft and granular body, but its chemical composition (*vide infra*) shows a close similarity with that of the bangle except that only part of the iron is present in the ferrous condition and the proportion of lime is much higher. The greenish colour of this material is due, evidently, to a complex ferrous silicate. The composition of these specimens indicates, further, that the clays had probably a glacial origin.

Faience.

Three more specimens of faience have been analysed this year, and the results (*vide infra*) indicate that the composition of this material is fairly regular. The microscopic examination shows that it consists essentially of particles of quartz closely packed and held together by a glassy cement. It would appear, therefore, that finely ground white sand was mixed with an alkaline silicate[1] made into a paste, moulded and fired. There would be, usually, sufficient lime in the sand to combine with the alkaline silicate, to form a glass. A little copper oxide was added when the favourite blue colour was desired. As a substitute for sand, steatite or talc was also tried but the material that has survived, is friable and in a decomposed state; so this product is much inferior to the ordinary faience.

Glazes.

The thin layer of glaze on the faience, whenever found, cannot be distinguished from the glassy cement which permeates the body; but there is no

[1] The preparation of an alkaline silicate or glass, by the fusion of alkaline efflorescences, which occur on the ground, with fine sand, was well-known to the ancients.

doubt that was applied separately, after firing. Occasionally, a black purplish glaze has been employed for the execution of simple patterns on the faience, which contains a considerable proportion of black oxide of manganese. It may, therefore, be inferred that it was prepared by the fusion of a natural manganese ore, *e.g.*, pyrolusite, with an alkaline silicate. Blue cobalt glaze occurs but rarely. A specimen of purple glaze on pottery was found also to owe its colour to the presence of manganese. The white enamel-like coating on the steatite seals has also been examined. Its chemical composition (*vide infra*) indicates that it consists essentially, of talc, which has been subjected to great heat. It is, therefore, highly probable that the glaze was prepared by mixing a fine impalpable powder of ignited talc with an alkaline silicate. In an experiment carried out by Mr. Sana Ullah, a slip was formed by levigating these ingredients in water, which was applied to a disc of steatite. After drying it was gradually raised to a dull red heat in a covered crucible. On cooling it was found that a white enamel had been produced. The result is conclusive. A deep red coloured bead (Hr. 5026) inlaid with white bands has been examined. The body appears to be of a variety of pottery rich in iron and the inlay is identical with the faience. The chemical analyses of all these ceramic materials is given in the table that follows.

Table of chemical analyses of ceramic materials from Mohenjo-daro.

Serial No.	Specimen.	Register Number.	Silica.	Alumina.	Ferric oxide.	Ferrous oxide.	Manganese oxide.	Lime.	Magnesia.	Alkalies.	Water	Phosphoric acid.	Copper oxide.	Analyst.
1	Glaze on steatite seal.	Dk. 4479	61·2	..	* 2·4	..	..	*Nil.*	34·6	..	2·2	..	..	Mr. Sana Ullah.
2	Black bangle .	Vs. 502	54·28	19·63	*Nil.*	8·70	0·13	9·63	4·39	3·43	*Nil.*	*Nil.*	..	Do.
3	Greenish pottery	?	52·39	17·03	5·30	2·29	..	15·78	4·45	1·71	1·05	*Nil.*	*Nil.*	Do.
4	Ditto.	Dk. 2424	54·09	16·89	5·46	2·49	..	16·18	4·59	..	1·09	..	..	Dr. Hamid.
5	Faience object .	Vs. 195	84·66	..	* 6·31	..	..	1·40	*tr.*	5·48	1·18	..	0·97	Do.
6	Ditto.	Hr. 3572	85·90	..	* 6·74	..	..	1·73	0·38	3·70	1·09	..	0·46	Do.
7	Ditto.	Hr. ?	87·11	..	* 4·89	..	..	2·42	0·30	3·71	1·05	..	0·52	Do.
8	Pottery bead .	Hr. 5026 body	71·12	9·27	10·91	..	..	1·77	1·51	3·73	1·69	..	..	Do.
		,, Inlay	86·28	..	* 7·78	..	..	2·35	0·61	1·21	2·05	..	..	Do.

*These figures include alumina.

Pigments.

The pigments employed for the decoration of pottery in the Indus Valley have been examined by Mr. Sana Ullah for their identification and the results are as follows :—

Red : red ochre or hæmatite.

White : ignited talc + carbonate of lime, the former being the principal constituent.

Green : green earth or glauconite, *terre verte.* This substance abounds in cavities in the trap rock of the Deccan.

Lumps of yellow ochre have been found at Mohenjo-daro, which was obviously used also as a pigment. The red and black slips found on pottery have

been examined by Dr. Hamid, who concludes that 'the colour of red pottery is due to the red oxide of iron, which is produced on firing from hydrated iron compounds present in the clay or used separately as a slip. The black body owes its colour to the presence of the black oxide of iron, which was produced during firing with a limited supply of air, so that instead of the red oxide, the black oxide of iron was formed. In one specimen (Dk. 2519) the material scraped from the surface contained 7·73 per cent. of ferrous oxide'.

Decay of Bones.

In one of the burial jars found at Harappa the skulls had undergone complete dissolution leaving nothing more than filmy impressions on the clay in which they were embedded, and the interesting question arose whether this was the result of the action of lime or other substances which may have been put in the jars, when the burial took place. On this point Dr. Hamid reports that 'the analysis of a clod of earth from this jar showed, however, that it contained very little lime. Lime, if added, would help to preserve, rather than injure the bones. It is obvious, therefore, that the disintegration of the bones is due not to the presence of lime but to the scarcity of it'. The specimen contained:—Moisture, 1·09 per cent.; gypsum, 0·29 per cent.; alkaline salts, 0·29 per cent.; lime, 4·22 per cent.; magnesia, 0·57 per cent.; carbon dioxide, 2·98 per cent.; phosphoric acid, 0·99 per cent.; ferric oxide and alumina, 9·53 per cent.; insolubles, 77·14 per cent.; carbonaceous matter, 2·70 per cent.; total, 99·80. Regarding the cause of the decay Mr. Sana Ullah further remarks that 'the bone substance which is essentially composed of calcium phosphate and to a lesser degree, of calcium carbonate, would undergo hydrolysis by the action of percolating waters charged with carbonic acid. In the absence of lime, ammonium salts resulting from the decomposition of organic matter of the bones, as well as, the sulphates and chlorides in the soil, would materially help in the process of dissolution. The broken condition of the jars would, moreover, facilitate the elimination of the waste products and the renewal of the percolating waters. It is, therefore, not surprising that the skulls in the broken jars have disappeared entirely while they are better preserved in those that are covered and have remained intact'.

The treatment of Decaying Monuments.

This year the Archæological Chemist visited the Bhaja caves near Poona, where some important sculptures were weathering badly. Mr. Sana Ullah reports that 'the rock here, generally known as trap, is an augite-basalt with a hemi-crystalline structure, vesicular and full of amygdaloidal cavities, which are found filled with a large variety of silicate minerals of secondary nature. Under the action of meteoric waters it undergoes profound hydrolytic changes.......and the rock is left in a spongy and brittle condition, which crumbles away readily. It is obvious that in order to stop the decay of such monuments it is necessary to protect them against the action of rain. Coating with waterproofing materials, *e.g.*, the paraffin paste, will be effective but this treatment will have to be renewed after the lapse of a few years.' He further suggests necessary repairs

and filletting of the crumbling edges besides the provision of a *chhajja* over the affected sculptures. He recommended the use of a 5 per cent. soda solution for the removal of paint and dilute ammonia for the elimination of moss stains from an inscription at this site.

Another important monument which received the attention of the Archæological Chemist this year was the Aśoka Pillar at Lauriya Araraj. In his report he makes the following observations :—

'Although the monument has withstood the action of natural agencies remarkably well, yet signs of decay are in evidence over its surface in varying degrees. The deterioration is serious at the foot of the column where it has suffered to about 2 or 3 feet above the level of the existing platform....Above this the pillar is well preserved and the surface still shows traces of the original polish. The inscription also is unimpaired. However, on close examination, I discovered that several cracks, one to three inches long, have appeared, here and there, and they constitute sources of danger for the future. Slight deterioration is also noticeable along the bedding planes which run lengthwise......The fragments that have fallen off from the foot are free from nitrates and chlorides, but show the presence of sodium sulphate. The damage, therefore, is due to the action of this salt which has obviously been derived from the soil.'

Work in Museums.

The Archæological Chemist visited the Central Museum, Lahore, to advise the Curator, regarding the treatment of Gandhara sculptures to free them from calcareous accretions, and the fitting up of a laboratory there, for the cleaning and restoration of the exhibits. At Sarnath, certain moss-affected sculptures were treated and the Custodian was instructed how to carry out the process independently. At the Fort Museum, Delhi, Mr. Sana Ullah treated a Mughal prayer carpet, and several textiles, besides the manuscripts, with hydrocyanic acid, in order to destroy the injurious insects with which they had become infected.

Miscellaneous problems.

The examination of a black powder found inside an inkpot at Taxila belonging to the early Kushān Period proved that it was composed of carbon mixed with earth. Therefore, it appears that a carbon ink was in vogue at that time. The contents of a small copper vessel found at Mulgaon, in the Western Circle, were examined microscopically which revealed that they consist of an alluvial earth mixed with numerous rock particles, but were free from bone. A bronze from Chittagong, Eastern Circle, has been analysed by Dr. Hamid, with the following results :—Copper, 82·32 per cent. ; tin, 15·85 per cent. ; antimony, 0·19 per cent. ; lead, 0·89 per cent. ; iron, *nil* ; zinc, 0·45 per cent. ; total 99·70.

Other problems, which were referred to the Archæological Chemist. this year, by various departmental officers, were the control of bees and termites, destruction of roots and rank vegetation, removal of moss and smoke stains.

Mr. Sana Ullah has contributed a chapter on 'Copper and Bronze' to the Mohenjo-daro Memoir. After several careful analyses he has shown that copper was the earliest metal known for general purposes while bronze was introduced probably earlier than 3000 B. C. However, the use of this alloy, was hampered by the scarcity of tin and tools of copper are found, consequently, along with those of bronze.

During the year under review certain specimens from the IRON PILLAR at DHAR were forwarded to Sir Robert Hadfield in England for examination and he reported as follows :—

" The material has been analysed and found to have the following composition :—

C.	*Si.*	*S.*	*P.*	*Mn.*	*Cu.*	*Fe.*
·03	·01	·007	·091	*Slight trace.*	*No. trace.*	99·8

It is remarkable to see the high percentage of iron obtained, 99·8 per cent., showing the excellent character of the material. It will be noted the Carbon is only ·03 per cent., also that the Silicon, Sulphur and Phosphorus are particularly low, the element showing the highest percentage of the whole being the Phosphorus, that is, ·091 per cent."

SECTION VII.

TREASURE TROVE.

United provinces.—Twelve numismatic finds from the districts of Banda, Moradabad, Jalaun, Allahabad, Etah, Sultanpur, Fyzabad, Agra and Gorakhpur were examined by Rai Sahib Prayag Dayal, Secretary, Coin Committee, United Provinces. Some of the most interesting specimens are:—a silver coin of a new variety of SHĀH JAHĀN of Katak mint, a rupee of SHĀH ĀLAM BAHĀDUR bearing his name MUAZZAM SHĀH and minted at Gorakhpur in the first year of his reign with the name of the town changed to Muazzamabad and a rare rupee of MUHAMMAD 'ĀDIL SHĀH struck at Kalpi mint.

Punjab.—Two finds of coins were reported, of which one was a hoard of 64 copper coins found in a forest in Tehsil Hamirpur, Kangra District. They were Mughal pice but so badly worn that only 18 of them, representing the issues of the Emperors AKBAR, MUHAMMAD SHAH and SHĀH ĀLAM II were selected for acquisition. The second hoard, which was discovered during levelling operations at the Multan Agricultural Station, is under examination. It includes the issues of the SŪRI KINGS, the Emperors AKBAR and JAHANGIR as well as a few coins of the SIKH rulers of the Punjab. As is frequently the case with copper coins most of the pieces in this hoard are much defaced and of little numismatic value.

Western Circle.—A hoard of 852 copper coins received from the Dewan of Nagod State was sent to the Superintendent, Archæological Section, Indian Museum, Calcutta. Of this hoard 381 pieces bearing dates ranging from 818 A. H. to 863 A. H., *i.e.*, 1415 A. D. to 1458 A. D., belong to MAHMUD SHAH IBN IBRĀHIM and MUHAMMAD SHAH IBN IBRAHIM of the SHARQI dynasty of Jaunpur. The remaining coins are not dated. The collection was returned to the State after examination. Eleven coins of billon and two of copper were recovered at the Jogeśvarī Caves in the Bombay Suburban District. Of the billon coins six are of JALALUD-DIN FEROZ SHAH of the Khalji dynasty of Delhi, four of ALAUD-DIN MUHAMMAD SHAH of the same dynasty and one of GHIYASUDDIN BALBAN. Of the two copper pieces one belongs to NASIRUDDIN MAHMUD SHAH of Delhi and the other is a half anna piece of the EAST INDIA COMPANY issued in 1777 A. D. These have been made over on loan to the Prince of Wales Museum of Western India, Bombay. Four copper coins of the EAST INDIA COMPANY OF SOUTH INDIA were discovered by the Archæological Overseer stationed at Tatta while inspecting the protected site, Sasuin-jo-Takar, Mirpur Sakro Taluka, Karachi District.

A broken stone slab bearing inscriptions in NĀGARI character was discovered by the Municipality of DOHAD in the Panch Mahals District and sent to the Prince of Wales Museum of Western India, Bombay.

Central Circle.—Thirty-one ĀLAM SHĀHĪ silver coins were found in the Nairsganj village situated within the jurisdiction of Satgawan Police station. They were acquired by the Bihar and Orissa Government for the Patna Museum Coin Cabinet at a cost of Rs. 30. Another find of 121 old silver coins with three rings were recovered by the police from one Lalmani who picked them up at Jalson Dhar in the Malda District of Bengal. These are now with the Treasure Trove Officer, Bihar and Orissa Government, whose report is awaited. The gold and silver coins and other miscellaneous articles discovered at Halipali in the Sambalpur District and near Jalley Police Station in the Darbhanga District, which were mentioned in the last year's Annual Report, have been acquired by the Local Government for the Patna Museum at a total cost of Rs. 134-15-0.

Eastern Circle.—Four cases were reported under the Treasure Trove Act in Bengal during the year.

A copper pot containing 182 silver coins was found by some labourers, while digging land belonging to Munshi Abdul Hakim Chowdhury of the village of Rajpura, Dohar P. S., Dacca District. The find consists of 77 coins of the four kings of the dynasty of HUSAIN SHAH OF BENGAL, 51 coins of the EMPEROR SHER SHĀH and 54 of ISLĀM SHĀH, the son of Sher Shāh. Mr. Stapleton, Honorary Government Numismatist, who examined and distributed the coins remarks "The earliest coins in the hoard are those dated in the first year of the reign of Hussain Shāh, *viz.*, A. H. 899 (A. D. 1493) while the last certain date is A. H. 953 (A. D. 1546) on the coins of Islām Shāh. The coins, therefore, cover a period of 53 solar years, the latest being 383 years old. The only previous find with which the present find can be compared is the Belbari, Gaur (District Malda), find described by Mr. H. Nelson Wright in the 'Numismatic Supplement' of the *Journal of the Asiatic Society of Bengal* for 1904, No. 13, (Vol. LXXII, Part I, pp. 233-235). The latter find covers the years 925 A. H. of Sultān Nasrat Shāh of the Husaini dynasty to 961 A. H. of Sultān Muhammad Ādil Shāh of the Sūri dynasty. In the Malda find, however, no coins of Ala-ud-din Husain Shāh, Ala-ud-din Firuz Shāh or Ghiyath-ud-din Mahmud Shāh were found, and with the exception of three coins minted by Sher Shāh at Sharifabad and 2 coins minted by Islām Shāh at Sātgāon, no Bengal coins were recorded. The present find is, therefore, much more important especially in respect of the very large number of Bengal mints, *viz.*, 119 out of 182 coins, or nearly two-thirds of the total find." The entire hoard was acquired and a sum of Rs. 159-4-0 paid to the owner of the land in which the find was made.

One Hashem Fakir found 37 silver coins while digging a tank in the village of Kristonagore near Bagerhat, Khulna District. The coins, mostly issued by the EAST INDIA COMPANY from the Arcot mint, are being examined by the Honorary Numismatist to the Government of Bengal. About 60 silver coins of the Emperor SHĀH ALĀM II were discovered at Bhandarkola in Nadia District and 49 silver coins of WILLIAM IV and QUEEN VICTORIA at Kamta in Khulna District. As, however, the coins were of no numismatic interest, their acquisition was not recommended.

The BUDDHIST IMAGES FROM JHEWARI, Chittagong District, noticed in last year's Report (p. 184) were acquired during the current year and distributed among the different meseums. Besides the usual cost of acquisition a special reward of Rs. 500 was paid to the finder, Shaharali Bali of Jhewari. A stone image representing REVANTA, the god of hunting, was found during the excavation of a tank at the village of Chancharipasa, Babuganj P. S., Bakarganj District. The image was acquired under the Treasure Trove Act and is now deposited in the Indian Museum, Calcutta (Pl. LIV, *b*).

Southern Circle.—The Treasure Trove cases in the Madras Presidency are now disposed of by the Superintendent, Madras Museum, and the following information is taken from his report :—

Ten finds of coins were reported in the Madras Presidency under the Treasure Trove Act. The most important of these comprise : 25 gold FANAMS found in the village of Thalangunam in the Gingee Taluk ; 553 Mysore copper coins of the time of TIPPU from Karukkalvadi, Salam District ; 300 lead coins of the ĀNDHRA dynasty discovered at Alavankoda, Kurnool District ; 996 gold FANAMS from Pattagarampalyam, Coimbatore District ; 36 gold Mughal FANAMS from the village of Virur in the Cuddapah District ; and 30 gold and 10 silver coins of the EAST INDIA COMPANY from the South Arcot District. No less than 32 metal and 5 stone images of Hindu deities were also acquired under the Treasure Trove Act.

Burma Circle.—Two gold images of the BUDDHA, in damaged condition, were discovered by a monk at PAGAN, while clearing the *débris* in a ruined temple near his monastery close to the ĀNANDA temple. Steps have been taken for their acquisition under the Treasure Trove Act.

SECTION VIII.—MISCELLANEOUS NOTES.

THE YERRAGUḌI ROCK EDICTS OF AŚOKA.

By Rai Bahadur Daya Ram Sahni, M.A.

The honour of this remarkable discovery is due to MR. A. GHOSE, F.C.S., F.G.S., the well known geologist of Calcutta, who first found these inscriptions while prospecting for precious minerals in the Kurnool District of the Madras Presidency. It will be remembered that the Maski Rock Inscription was also discovered by a gold-mining engineer, Mr. C. Beadon. Mr. Ghose was himself able to read the words *Devānaṁ* and *Piyadasi* in one of the inscriptions and was thus convinced that the documents had been engraved under the orders of Aśoka. He was good enough to communicate full information regarding the position of these inscriptions to Mr. H. Hargreaves, the Officiating Director General of Archæology in India in January, 1929. A photograph of one of the inscribed rocks furnished by Mr. Ghose was supplied to me and I was deputed to locate the inscriptions, have estampages made and to submit a report upon them to the Director General of Archæology. Accompanied by Dr. Hirananda Sastri, Government Epigraphist for India, I arrived at Gooty, a Railway Station on the Raichur-Madras Section of the M. & S. M. Railway on the 8th February 1929 and during a halt of some eight days was able not only to identify with certainty twelve out of the fourteen Rock Edicts and a Minor Rock Edict but also to have a complete set of impressions made of these and to prepare transcriptions from the original rocks. Of the two edicts which I was unable to identify at my visit, I conjectured the existence of No. VI on Rock A and No. XII was identified later on a separate boulder by Mr. S. V. Vishvanatha, Assistant Archæological Superintendent for Epigraphy, Southern Circle, who was sent in August 1929 to make fresh estampages and photographs under the orders of the Government Epigraphist. The few photographs which accompany this note were taken on this occasion.

The discovery of these edicts was communicated to the press in a communiqué on the 11th February 1929 by the Officiating Director General of Archæology. The inscriptions will be edited by Dr. Hirananda Sastri in the *Epigraphia Indica.* The present note is devoted to a preliminary account of the discovery and a general discussion of the contents of the inscriptions.

Six complete sets of the ROCK EDICTS OF AŚOKA and a fragment of a seventh set were hitherto known to us, the former at Girnār, Kālsī, Shāhbāzgaṛhī, Mānsehrā, Dhauli and Jaugaḍa and the latter from Sopārā, now preserved in the Museum of the Bombay Branch, Royal Asiatic Society. Three rock inscriptions containing an enlarged version of the Minor Rock Edicts of Rūpnāth, etc., had already been brought to light near Śiddāpura in the Mysore State in 1892. The present find provides further epigraphical proof of Aśoka's supremacy over a part of Southern India.

The new inscriptions are situated some eighty miles north-east of Śiddāpura on the southern border of the Kurnool District and at a distance of some eight miles from the town of Gooty on the unmetalled road to Pattikoṇḍa. The nearest village to the inscriptions is Yerragudi, situated approximately in East Longitude 77° 39′ and North Latitude 15° 12′, after which the inscriptions have been named.

The Yerraguḍi inscriptions are inscribed on six large boulders (Pl. LX) forming part of a conspicuous eminence in a range of low hills stretching westward from the vicinity of that village. The particular hill is locally known as Nallayena-koṇḍa or simply Yenakoṇḍa which in Telugu means the "elephant hill". Mr. Ghose suggests that this name is due to the former existence on this hill of an effigy of the sacred elephant sometimes associated with the inscriptions of Aśoka. A very careful search failed to reveal any traces of an elephant statue and my own impression is that the name Yenakoṇḍa is nothing more than a fanciful invention of the villagers like the name *Yenamana Timmayyana guṇḍalu* or the "buffalo-bird Timmayya's rocks" given to one of the inscribed rocks near Śiddāpura. According to Mr. Ghose, "the boulders on which the inscriptions are engraved are hornblendic gneiss probably belonging to the Archæan complex, the oldest rock series in India which is the repository of all the great gold, copper and iron ore deposits in India".

The boulders are designated A, B, C, D, E and F (Pl. LX). The largest of them (A) occupies the summit of the hill; the others are lying on the east slope. The inscribed surfaces are rough and badly pitted and no attempt appears to have been made to dress or smooth them, with the result that with the exception of the inscriptions engraved on the north face of Rock A, and those on Rocks B and F, the others are only partially decipherable and that with the greatest difficulty.

Rock A situated above a precipice some 20′ high, is a large boulder having the lower portions cut away on both of the inscribed north and east faces. Wooden scaffolds had therefore to be erected to copy and decipher the inscriptions. The east face which is 17′ 6″ in width contains Edicts I and II engraved one above the other at the left end, Edicts III and VI in the middle and Edict XIV in an irregular depression at the upper right corner. Edicts I, II, III and VI are not separated from one another by blank spaces or dividing lines and as the surface has peeled off considerably, it was only with great difficulty that it was possible to determine where they began and where they ended. By persistent and close examination of the original rock and with the help of Hultzsch's *Aśoka Inscriptions* I was able to prepare fairly complete transcripts of all of them with the exception of that of Edict VI, of which only stray words can be definitely made out, though they are sufficient to establish its identity.

The north face (AI) of the rock, which measures 15′ 6″ in width, contains Edicts XI, V and VII. Edict XI occurs at the left end and comprises six lines measuring 3′ 3″ to 4′ with the exception of the last line which is only 2″ in length. The rest of the width of this face, save a blank space of 3′ which separates it from Edict XI, is occupied by Edict V, which consists of seven

lines covering a rectangular space of 8′ 6″ by 1′ 8″. The last or seventh line is only 3′ long. Edict VII which is engraved at the upper right corner is divided from Edict V by a blank space of 6″, and consists of five lines covering a space of 3′ 3″ by 1′ 2″. All these three edicts are tolerably well preserved except for the portion at the right end of Edict V, which is illegible.

Rock B. This is an irregularly shaped block lying a little to the east of the east face of Rock A. The east face of this boulder which contains the inscriptions is 13′ in width from north to south and pointed at the top. It is divided into two triangular portions by a roughly chiselled line running from top to bottom. The right hand portion bears Edicts IV, VIII and X (Pl. LXI) which are well preserved and divided from one another by short chiselled horizontal lines at the left end. Edict IV consists of fourteen lines, Edict VIII of four and Edict X of five lines. The lines are fairly straight in the upper portion, but irregular in the lower. The crack, which slopes from left just above the last line of Edict IV upwards to the right, appears to have existed before the edicts were cut upon the boulder as no characters appear to have been damaged by it. With the exception of three letters which are defaced at the beginning of line 2 of Edict VIII, these inscriptions are quite legible.

The inscription on the left hand portion (B1) of this boulder is not so well preserved as those on the portion just described. It was meant for Edict XIII, but as the available surface proved insufficient, the inscription was completed in seven additional lines on the flat top of another boulder (C), 5′ 6″ wide, which is lying a few feet to the south. The portion of this edict engraved on Rock B consists of 29 lines cut so close together that the decipherment proved a task of considerable difficulty. This was rendered the more difficult since the inscription continues across the lower portion of the surface of the crack referred to above, to the right hand portion of the block, while other smaller cracks in the lower portion interfere seriously with the continuous running of the lines and are responsible for much confusion. The inscription is also badly defaced at several places.

Rock E which is lying 27′ to the east of Rock B is an irregularly shaped boulder and is inscribed with Edict IX on its rough undressed vertical face looking west. The lines are neither straight nor parallel.

Rock D which bears Edict XII incised in twelve lines and is lying 27′ south-east of the southern extremity of the east face of Rock A, completely escaped my observation and, as stated above, was found by Mr. Visvanatha. This inscription is somewhat better preserved than Edict IX and completely decipherable *mutatis mutandis* with the help of the published versions, like which it begins with **देवानं पिये पियदसि लाजा सवपासंडानि**, etc., and ends with **धंमस च दीपना** . But below the last line at the right extremity, there are traces of another line of writing in the same character, which is too badly defaced to be read.

The SCRIPT of the Yerraguḍi inscriptions does not call for any remarks. The text comes nearest to that of the Kālsī recension but differs in some

respects from the Dhauli version. The following are a few of the differences :—

The use in the Yerragudi version of the genitive case in place of the locative, in नातिनं असंपटिपति (Edict IV, line 1) in place of नातिसु at Dhauli; समनबंभनानं असंपटिपति (line 3) in place of समनबाभनेसु; दसयितु जनस (line 6) instead of मुनिसानं; बढ्ढि (line 6) in place of बड्ढि; हुतपुलुवे (line 6) in place of हृतपुलुवे; आवकपं (Skt. यावत्कल्पं) (line 11) for आकपं. In Edict VIII we find हेत इयं होति (line 2) in place of ततेस होति; लति होति (line 4) for अभिलामे होति. In Edict X, line 3, we find सिया in place of इवेया at Dhauli. The thirteenth edict is almost identical with the Kālsī version except for the frequent use in the latter of the punctuation mark and of the cerebral sibilant not only where it would be necessary in accordance with the Sanskrit spelling as in अठवषाभिषित (line 1) but also in words like पियदषिने (Sanskrit *Priyadarśinaḥ*) and *janasha* (Sanskrit *janasya*). The same remarks apply to Edict XI and also presumably to Edict XII.

In the Yerragudi inscriptions there are no marks to denote the ends of the Edicts, nor any marks of punctuation such as are found in the Kālsī and Sahasrām inscriptions.

The DIALECT of the Fourteen Rock Edicts at Yerraguḍi is the Eastern variety of the Aśokan Māgadhī as represented in the Kālsī, Dhauli and Jaugaḍa inscriptions.

ERRORS of omissions and superfluous letters are rare. But observe लानजिन for लाजिन in line 14 and जस for जनस in line 6 of Edict IV.

ROCK F which is situated between Rocks C and E contains a somewhat enlarged version of the Brahmagiri, Śiddāpura and Jaṭiṅga-Rāmeśvara Minor edicts and similarly consists of two separate sections, but from which it differs in omitting the introductory passage, "From Suvarṇagiri, at the word of the prince (*āryaputra*) and of the Mahāmātras, at Isila, etc."

The Yerraguḍi MINOR ROCK EDICT (Pl. LXII) is, so far as the characters are concerned, the best preserved of all the inscriptions found at that place and it appeared at first sight that it would be read straightway. Appearances are, however, sometimes deceptive and when I actually started transcribing it, I found the inscription to be a confused mass of writing: there were scarcely any straight lines, and there were others of much shorter lengths at both the right and left ends of the inscribed surface, which fitted into none of the whole lines above or below them. Lines 2, 4 and several others gave no sense when read from left to right as Brāhmī inscriptions invariably are. It was difficult to decide whether the document was a corrupt copy of the similar inscriptions at Brahmagiri, etc. I, however, set to work, and it was not till after many hours' labour that the enigma was solved. It then transpired that as many as eight of the twenty-three lines were inscribed from right to left. These are 2, 4, 6, 9, 11, 13, 14 and 23. And if we eliminate from consideration lines 8 and 14 of the inscription, the first fifteen lines are at once found to be in boustrophedon style, *i.e.*, written alternately from left to right and *vice versa.* As far as I am aware, no other Brāhmī or Kharoshṭhī inscription is written in this

manner and the only Brāhmī inscription written from right to left is the little legend on a coin from Eran which reads *Dhamapālasa* but which has been generally assumed by scholars to be due to a fault in the matrix from which the coin had been cast. The inscription under consideration leaves no doubt that the boustrophedon style of Brāhmī epigraphs was not unknown in the time of Aśoka. As soon as this clue was obtained, most of the inscription was easily transcribed.

There were, however, other defects. The first six characters of line 7 are inscribed at the beginning of line 5. The syllables **घेतवे ए** of the words **आराधेतवे एताय** in line 7, which are written from left to right, were inscribed in continuation of the short line 6 which is written in the opposite direction.

The words **अढातियानि वसानि** found in Brahmagiri version, after the word **अधिकानि** are omitted from line 1 in the Yerraguḍi inscription. There are also other omissions. In line 12, the word **देवानं** is written twice.

The SCRIPT of this inscription closely resembles that of the Minor Edicts from Mysore. The only difference that may be mentioned relates to the letter *r* which, in the Yerraguḍi Inscription has a straight, curved or hooked form, though the twisted shape found in the Brahmagiri, etc., inscriptions is not absent. There is also no lingual *ṇ* to be found in the Yerraguḍi version. The word *mahaptena* in line 6 of the Yerraguḍi Inscription is spelt *mahātpena* in the Brahmagiri version. The optative plural has in some cases *v* instead of *y*, e.g., *jānevu* (line 9) in place of *jāneyu* of the Brahmagiri version.

The first section of the inscription closely follows the corresponding portion of the Brahmagiri, etc., version except for the omissions mentioned above and a few others which must be assigned to the carelessness of the engraver. The second section is a more amplified version of the corresponding portion of the Brahmagiri inscription and occupies the latter part of the epigraph from the middle of line 12 up to the end. This section may be translated as follows :—

Thus saith the Beloved of the gods and as the Beloved of the gods directs, so should (the people) act. The *rājūka* should be commanded and (in his turn) he should now direct the *jānapada* and *rāṭhikas* that obedience must be rendered to mother and father, likewise to elders ; compassion should be shown towards men ; the truth must be spoken : these same moral virtues must be practised. Thus should you direct, at the word of the Beloved of the gods. Thus should you command the *Kāruṇakas* riding on elephants and the *Brāhmaṇas* driving in vehicles. Thus should you admonish the pupils : he (*i.e.*, the teacher) should be obeyed according to the ancient rule and so also the relatives of the teacher by way of showing veneration to the teacher ; they should also behave in a suitable manner towards (their own) relatives. In the same way (they) should also behave in a suitable manner towards the pupils of others(?) according to the ancient rule. Thus should you direct and admonish the pupils that he (*i.e.*, the teacher) may enjoy threefold comfort (*ti-r-oka ?*). Thus commands the Beloved of the gods.

Yerraguḍi Minor Edict. Text.

	Line 1.	से देवानं पिये हेवं ह अ[धि]कानि
From r. to l. . .	Line 2.	य हकं उपास[के] नो तु खो एकं सवछरं पकांते
	Line 3.	हुसं सातिरेके चु खो सवछरे यं मया संघे उपयो-
From r. to l. . .	Line 4.	ते बाढं च मे पकंते इमिना च कालेन अमिसा [ये] मुनिसा[1]
	Line 5.	देवेहि ते दानि मिसिभूता पकमस हि
Half line from r. to l.	Line 6.	[इ]यं महतेनेव सकिये खु-
	Line 7.	[2]दकेन पि पकममीनेन सकिये विपुले खगे आराधेतवे [3]एताय च अठाय इयं
	Line 8.	[सा]वने साविते अथा खुदकमह[ल]का इमं [पि] पकमेव् अं-
From r. to l. . .	Line 9.	ता च मे जानेवु चिरठितिका च
	Line 10.	इयं पकमे होतविये च इपि व[ढि]सि वि अपरधिया दियढियं
From r. to l. . .	Line 11.	इयं च सावने सा-
	Line 12.	वापिते व्यूथेन २०० ५० ६ हेवं देवानं देवानं पिये आह यथा दे-
From r. to l. . .	Line 13.	वानं[4] पिये आहा तथा कटविये रजूके[5] आनपेतविये
From r. to l. . .	Line 14.	से दानि जानपद आन-
	Line 15.	पयिसति राठिकानि चा मातापितुसु
	Line 16.	[6]सुसुसितविये हेमेव गरुसु सुसुसितविये जनेसु दयितविये सचे वतविये [इ]-
	Line 17.	मे धंमगुना पवतितविया हेवं तुफे आनपयाथ देवानं पियवचनेन हेवं आनप[7]-
	Line 18.	याथ हथियारोहानि कारनकानि यूग्याचरियानि वंभनानि च तुफे हेवं निवेसया-

[1] The last six letters are written at the left end of the line and have to be read from left to right.

[2] The first six letters of this line are written at the beginning of line 5 before देवेहि.

[3] These four under-lined letters are written above the line at the level of महतेनेव सकिये खु.

[4] This line is very uneven.

[5] Half line.

[6] The first two letters are written at the beginning of the next line.

[7] The last four letters are written below the line from r. to l. at the right end.

Yerraguḍi Minor Edict. Text—contd.

Line 19. थ अंतेवासीनि यारिसा पोराना पकिति इयं सुसुसित-
विये अपचायनाय वा आचरियस[1][हि]मेव[2]

Line 20. से यथा वा पुन आचरियस नातिकानि यथारहं
नातिकासु पं(प्र)वतितविये हेसापि

Line 21. [परां ?]तेवासीसु यथारहं पवतितविये यारिसा पोराना
पकिति यथारहं यथा इयं

Line 22. तिरोके सिया हेवं तुफे आनपयाथ निवेसयाथ च अंते-
वासीनि हेवं दे-

From r. to l. . . Line 23. वानं पिये आनपयति

An interesting estimate of the extent of the Empire of Aśoka, deducible from his inscriptions, will be found in Dr. Hultzsch's new edition of 'Inscriptions of Aśoka', pages XXXVI *seq.* Aśoka's dominions were divided into a number of provinces. The chief town of one of these was Kauśāmbī which was governed by a body of *mahāmātras.* Ujjayinī was the headquarters of another province which was governed by a Royal Prince (*Kumāra*). Taxila was the capital of a third province and Tosali that of a fourth, which last corresponded roughly to the modern districts of Puri and Ganjam. Brahmagiri, Śiddāpura and Jaṭiṅga-Rāmeśvara belonged to the district of Isila, which was under the *Ayaputa* at Suvarṇagiri. Dr. Hultzsch identifies the last town with its synonym Kanakagiri in the Nizam's Dominions, south of Maski. The ancient name of Yerraguḍi is not mentioned in the inscription under consideration, nor that of the district to which it belonged, nor again the name of the place from which this edict was issued. The words "at the word of the Beloved of the gods" seem to imply that this part of the country corresponding to the modern Telugu Districts, was governed direct from the headquarters of the Mauryan Empire at Pāṭaliputra. The new inscription adds the district of Kurnool and, presumably, a large tract of the country around it to the dominions of Aśoka. How much further south Aśoka's empire extended beyond Yerraguḍi cannot at present be stated.

BAS-RELIEFS IN THE HILL FORT AT BADAMI.

By Mr. G. C. Chandra.

Three stone lintels bearing bas-reliefs were discovered in course of clearance at the second gateway of the Hill Fort to the north of the Bhūtnāth tank at Badami, in the Bijapur District of the Bombay Presidency, during the year 1928-29. These originally belonged to a temple which is now in ruins and

---

1 This व्र is written at the beginning of the next line but at a higher level.

1 These three letters have to be read from right to left. The letter हे is, however, uncertain.

were re-used at a later period in the construction of the plinth of a guardroom on the fort.

The bas-reliefs represent scenes from the early life of KṚISHṆA and may be compared with similar ones in the BADAMI CAVES described and illustrated by R. D. Banerji.[1] The first scene is found at the left end of Plate VIII, *a*, which shows Kaṁsa, the king of Mathurā, seated with his wives, the small figure under his left arm being probably the child Kṛishṇa whom Kaṁsa is said to have visualized in his dream on the night Kṛishṇa was born in the prison. Next we are introduced to Kṛishṇa's life in Gokula,[2] the child lying in a cradle, the grazing cows, and Kṛishṇa's foster-mother Yaśodā engaged in churning milk. Two females, who are evidently Yaśodā and Rohiṇī, are seen carrying in their arms two children who must be Kṛishṇa and Balarāma respectively. The Rākshasī Pūtanā is next seen with upraised hands being sucked to death by Kṛishṇa. In the subsequent scene the child is found lying partly in the lap of Yaśodā and partly on the ground, kicking at a cart[3] which, according to the story, he was able to overthrow. Once Yaśodā in order to punish her refractory child, tied him to a large wooden mortar (*udūkhala*) which he dragged between two *Arjuna* trees with such superhuman force that they were uprooted. It was through the curse of the sage Nārada that two sons of Kubera had been transformed into these *Arjuna* trees, which being now eradicated they were free from the curse and assumed their normal bodies again. In the relief are seen the twin trees with a pair of human heads above,[4] evidently signifying the release of the two accused persons, and also the child dragging the mortar between the trees. In the next scene, the Asura Pralamba is carrying away Balarāma on his shoulder after the mock fight. Accoi ding to the story Balarāma struck him on the head and killed him on the way. Then comes the representation of the killing of Kaṁsa's elephant Kuvalayāpīḍa, one of whose tusks was torn out by Kṛishṇa with his left hand.[5] The lifting of Govardhana Hill[6] and the departure of Nanda and his family for Vṛindāvana are next shown. The story is continued to the left end of Pl. VIII, *b*, where is depicted Kṛishṇa's fight with Dhenukāsura,[7] who is said to have taken the form of a donkey, and this is followed by yet another of his feats, the overthrow of Nāgā Kālīya in the Kālindī Lake.[8] Next comes Kṛishṇa's encounter with the demon Arishṭa appearing as a bull,[9] and at the end of the panel, the scene of Kaṁsa ordering Akrūra, who is seen bending down before him in homage, to invite Kṛishṇa and Balarāma to his court for their execution.

---

[1] *Memoirs of the Archæological Survey of India*, No. 25, pp. 25-28 and Pl. XII (Cave No. II), and pp. 53-55 and Pls. XXIV, XXV (Cave No. IV). For the incidents represented in the bas-reliefs under reference Banerji's summary of the Kṛishṇa legends in his Memoir should be consulted.

[2] *Cf. ibid*, Pl. XII, *b*, 1-4.

[3] *Cf. ibid*, Pl. XII, *c*, 2. The cart represents the *Śakaṭāsura*, or "The Cart Demon".

[4] *Cf. ibid*, Pl. XII, *c*, 1.

[5] *Cf. ibid*, Pl. XXV, *b*, 3.

[6] *Cf. ibid*, Pl. XII, *d*, 1. Representations of this scene are common at Mathurā and perhaps include some of the earliest examples.

[7] *Cf. ibid*, Pl. XXV, *b*, 2.

[8] *Cf. ibid*, Pl. XXV, *c*, 1.

[9] *Cf. ibid*, Pl. XII, *c*, 3.

[Similar panels depicting the life scenes of Krishṇa have been discovered elsewhere, including PAHARPUR[1] in Bengal (*circa* seventh century A.D.) and MANDOR[2] in Rajputana (*circa* fifth century A.D.). Of the incidents illustrated in the bas-reliefs from the Bādāmī Hill Fort, the lifting of the Govardhana Hill, the destruction of Dhenukāsura and the uprooting of the twin *Arjuna* trees are found also at Paharpur. In the last mentioned episode in the Paharpur relief, Krishṇa is represented as holding in each hand the trunk of a tree and trampling on the heads of two prostrate figures, who are evidently the sons of Kubera. At Mandor this scene does not seem to occur, but the overthrow of the cart, the lifting of the Govardhana hill, and the destruction of Arishṭṭa, Kālīya and Dhenukāsura are clear. The bas-reliefs in the Bādāmī Caves are referable to the sixth or seventh century A.D. and were probably inspired by the zeal of the Western Chālukyas who were Vaishṇavas in faith. To the same period should also be assigned the sculptures under reference. The earliest known representation of the life of Krishṇa, which is datable to the first or second century A.D., comes from Mathurā.[3] These sculptures, though not of high artistic merit, are nevertheless valuable documents for the early history of the Vaishṇava religion.—*Ed.*]

NOTES ON THE COINS OF AZES.

By Mr. N. G. Majumdar, M.A.

Coins of Spalirises, Azes and Azilises.

A king named SPALIRISES, who belonged to the family of the Śaka-Palhava Vonones, ruled with an AZES as his colleague, and struck coins in their joint names. The obverse of these coins bears the legend 'the Great King Spalirises' in Greek, and the reverse, 'the Great King Azes' in Kharoshṭhī and Prākrit. On some coins again, the name of Spalirises alone appears, on the obverse, and similar ones of Azes have been found in abundance. Coins of the family of Vonones "come chiefly from the ancient Arachosia or modern Kandahar and Ghazni" and "are very rarely found" in the Punjab, whereas those of Azes "are very numerous" in the latter province.[4] It has, therefore, been assumed that Azes was first ruling with Spalirises in Arachosia, probably as his subordinate colleague, and thereafter, as the suzerain king held the Punjab. Numismatists agree in the view that Azes came after MAUES, the earliest of the Śaka-Palhava Kings of the Punjab, and was succeeded by AZILISES.[5] Azes, as well as his successor Azilises, not only continued the issues of Maues, but

---

[1] *A.S.I.*, 1926-27, pp. 141-42 and Pl. XXXII, *a*, *b* and Pl. XXXIII, *a*.

[2] *A.S.I.*, 1905-6, pp. 136-38 and *A.S.I.*, 1909-10, pp. 98, 99 and Pl. XLIV, *b*. *Cf.* R. G. Bhandarkar, *Vaisnavism, Saivism*, etc., p. 44.

[3] *A.S.I.*, 1925-26, p. 184 and Pl. LXVII, *c*.

[4] Cunningham, *Coins of the Sakas*, pp. 106-107.

[5] Smith, *Z.D.M.G.*, 1906, pp. 61-64.

also struck a number of additional types which are manifestly borrowed from those of the Indo-Greek princes whose kingdoms they had conquered.[1]

Joint Coins of the Family of Azes: Azes I and Azes II.

According to some scholars[2] Azilises was followed by an AZES II, because on some coins (i) the name of Azes occurs in Greek on the obverse and that of Azilises in Kharoshṭhī on the reverse; and on others (ii) the name of Azilises in Greek on the obverse and that of Azes in Kharoshṭhī on the reverse. The ruler whose name appears in Greek on the obverse is supposed to have wielded the supreme power and his associate whose name is written on the reverse in Kharoshṭhī, a somewhat less dignified position. Accordingly, Azilises must have been associated with two kings named Azes, one after another. Before his accession to independent power, Azilises was the subordinate colleague of an Azes, and subsequently, an Azes was his subordinate colleague. There are again the joint issues of an Azes and his *strategos* AŚPAVARMAN, who, as some coins testify, ruled also as the *strategos* of GONDOPHARES for some time. Azes, whose name appears on the reverse side of some of the coins of Azilises, has been identified with Azes, the overlord of Aśpavarman, and designated "Azes II". He was thus a near contemporary of Gondophares who came to the throne in 19 A.D., if the year 103 of his Takht-i-Bahi inscription is rightly referred to the so-called Vikrama era (58 B.C.). On the other hand, Azes, the predecessor of Azilises, who may be distinguished as "AZES I", flourished, as already stated, immediately after Maues, the earliest of the Śaka-Palhava princes.

Technique of coins.

Vincent Smith, who for the first time distinguished the coins of Azes I from those of Azes II, pointed out that the coins of the former are 'well executed with good Greek legends,' while those of the latter are 'semi-barbarous with debased, and often corrupt, Greek legends.' To the first type belong certain coins issued by Azes alone and those bearing the joint names of Azes and Azilises, and to the second type, certain coins issued by an Azes alone and those on which he is associated with Aśpavarman.[3] The coins ascribed to Azes II, if compared to those ascribed to Azes I, show a systematic debasement and deterioration of the technique and cannot be regarded as stray examples of inferior execution. Sir John Marshall has shown that within the stratified city of Taxila, the coins of Azes II 'are found generally nearer the surface than those of Azes I' and 'coins of Azes II (with Aśpavarma) are found in company with coins of Gondophernes.'[4] These circumstances, though not in themselves conclusive as to the existence of a second Azes, certainly indicate that *a long time* must have elapsed between the

---

[1] Rapson, *Cambridge History of India*, Vol. I, p. 571.

[2] D. R. Bhandarkar, *J.B.B.R.A.S.*, Vol. XX (1902), pp. 285-86; Smith, *loc. cit.*; Marshall, *J.R.A.S.*, 1914, p. 979; Rapson, *loc. cit.*, p. 572;

[3] *Z. D. M. G.*, 1906, p. 64; and *Catalogue of Coins in the Indian Museum*, Vol. I, p. 38 and pp. 43 ff.

[4] *J. R. A. S.*, 1914, p. 979.

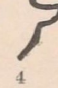
issues of the two classes of coins, which agrees with the chronological scheme involved in the assumption of an Azes II. The hypothesis has not, however, been accepted by Whitehead, because, in his opinion, "the difference in type and style between the abundant issues of Azes can be adequately explained by reasons of locality alone operating through a long reign."[1] But the question, as we have seen, does not rest primarily on the indications of type and style, but on the evidence of the joint issues of Azes and Azilises. If Azes preceded Azilises then the juxtaposition of the two sets of coins bearing their joint names can be best explained by postulating the existence of a second Azes, as it can hardly be maintained that Azes was first the suzerain and subsequently the junior colleague of Azilises. Whitehead holds that there was only one Azes, but he does not say how else the joint issues are to be explained if not by the assumption of a second Azes.

Evidence of Kharoshṭhī Palæography.[2]

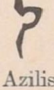
The change in technique on the coins of Azes has certainly a chronological significance and it shows how the coins of the two rulers can be distinguished. Similar indications are afforded also by the PALÆOGRAPHY of the Kharoshṭhī coin-legends. So far the evidence supplied by inscriptions on objects other than coins has alone been utilized for a study of the successive changes that occurred in the Kharoshṭhī alphabet from the third century B. C. to the third or fourth century A. D. But it is interesting to note that many of these changes are perceptible also on the coins, and practically in the same order, so that the palæographic data gleaned from these may be usefully brought into the service of chronology. For our present purpose the most important letter is the dental sibilant (*sa*), which in Aśokan inscriptions has the appearance of the English letter P with a horn stretched to the left of the loop (Fig. 1). In the records of the Śaka-Palhava period, it shows an opening on the left but retains in many cases a trace of the upward projection of the lower vertical and the horn of the letter is stretched above as a vertical stroke (Fig. 2) or as a curve turned to the right (Fig. 3). In the inscriptions of the Kushānas as well as in those from Central Asia, the letter is always of the 'open' type, without any upward projection of the lower vertical[3] (Fig. 4). Pl. LXIV which illustrates the development of the Kharoshṭhī alphabet on the coins will show that the 'closed' Aśokan or 'archaic' type of *sa* regularly occurs on all the Indo-Greek coins (Pl. LXIV, 1-6), and on all the issues of Maues (Pl. LXIV, 7-8), the Vonones group (Pl. LXIV, 9), and Azes I and Azilises (Pl. LXIV, 10-12), and the 'open' or 'late' type on the coins of Azes II (Pl.

1

2 3



4



---

[1] *Catalogue of Coins in the Panjab Museum*, Vol. I, p. 93.

[2] The development of the Kharoshṭhī alphabet on coins was first discussed by the writer of this article before the Conference of Archæological Officers which met in Simla in September, 1927.—*Ed.*

[3] *Cf.* Banerji, *J. R. A. S.*, 1920, pp. 208 ff; Bühler, *Ind. Pal.*, Table 1, 36; Thomas, *Ep. Ind.*, Vol. IX, Pl. IV; Rapson, *Kharoṣṭhī Inscriptions*, Part III, Oxford, 1929, Pl. XIV, and Konow, *Corpus Inscriptionum Indicarum*, Vol. II, Part I, p. cxxiv.

LXIV, 13), Azes II with Aśpavarman (Pl. LXIV, 14, 15) and Gondophares. On the coins of the latter group of kings the 'intermediate' form, which retains a trace of the projection of the lower vertical, often appears (Pl. LXIV, 15) simultaneously with the 'open' type. But the letter regularly takes the open form on the currency of the Kushāna kings Kujula Kadphises and Vima Kadphises. (Pl. LXIV, 18-21).

So far as the Azes and Gondophares coins are concerned the distribution of the archaic and late types of the letter is shown in the following table.

Obverse.	Reverse.	Type of *sa*.	References.
1. SPALIRISES . .	AZES (I) . .	Archaic . .	Gardner, *B. M. C.*, Pl. XXII, 3; Whitehead, *P. M. C.*, Pl. XIV, 395, 396.
2. AZES (I) . .	AZES (I) . .	Archaic . .	*P. M. C.*, Pl. XI, 179.
3. AZES (I) . .	AZILISES .	Archaic. . .	*P. M. C.*, Pl. XIII, 319.
4. AZILISES . .	AZILISES .	Archaic . .	Smith, *I. M. C.*, Pl. IX, 4; *B. M. C.*, Pl. XX, 10.
5. AZILISES . .	AZES (II) .	Archaic . .	*Coins of the Sakas*, Pl. VII, A. 2; *A. S. I.*, 1914-15, Pl. XXVIII, 23.
6. AZILISES . .	AZES (II) .	Late . .	*B. M. C.*, Pl. XX, 3.
7. AZES (II) . .	AŚPAVARMAN .	Late . .	*I. M. C.*, Pl. IX, 7; *B. M. C.*, Pl. XX, 2.
8. AZES (II) . .	AZES (II) .	Late . .	*B. M. C.*, Pl. XX, 1.
9. GONDOPHARES .	AŚPAVARMAN .	Late . .	*P. M. C.*, Pl. XV, 35.
10. GONDOPHARES .	GONDOPHARES	Late . .	*B. M. C.*, Pl. XXII, 8, 12.

It is evident that coins Nos. 7 and 8 of an Azes which show the late type of *sa* are later in date than coins Nos. 2 and 3 of an Azes and also those of Azilises (Nos. 4-5) which exhibit the archaic type of the letter. We are thus compelled to admit the existence of an Azes who must have preceded, and of another who must have succeeded Azilises. It may, however, be argued that there is no direct evidence to prove that Azilises necessarily succeeded an Azes, and that the order of succession might have been the reverse of what has been assumed. But in that case the coins of Azes bearing the name of Azilises on the reverse (No. 3) would be inexplicable, unless, of course, we assume that there existed two kings of the name of Azilises, and further, those coins of an Azes that bear the archaic *sa* will have to be placed after certain joint issues of Azilises (No. 6) which not only show a later technique but also the late type of *sa*. It is, therefore, more reasonable to accept the order of succession as given in the table, and to explain

No. 6 of the coins as one of the latest of Azilises, after which he was succeeded by Azes II.

The associate of Spalirises: Azes I or Azes II?

In the above table Azes I is assumed to have associated with Spalirises. But Professor Rapson thinks that the associate of Spalirises was Azes II.[1] The evidence is, however, against this assumption. In the first place, it is difficult to maintain that Azes II who ruled in the Punjab, either with Azilises or independently, had gone to Arachosia for some time to assist Spalirises of the family of Vonones who never held sway over the former province. Secondly, the joint coins of Spalirises and Azes bear the representation of Zeus radiate, standing to front, leaning on a long sceptre held in the left hand and grasping with his right hand, a thunderbolt.[2] This device which occurs frequently on the currency of the Vonones family[3] (Pl. LXIV, 9) appears also on the issues of Azes I (Pl. LXIV, 10), but not on those of Azilises, or Azes II, and is never figured on the coins of Gondophares and his successors. Thirdly, on all the coins of the Vonones group the Kharoshṭhī script is uniformly of the same old style as on the Indo-Greek coins, the letter *sa* in every case being of the archaic P-shaped pattern. In these circumstances it is natural to identify Azes, the associate of Spalirises with Azes I and not with Azes II.

Azes and Azilises not identical.

Professor Sten Konow[4] has recently endorsed the views of Whitehead, and further attempted to prove that between Maues and Gondophares there flourished only one king, namely, Azes who often called himself also by the name Azilises. The question, therefore, of the joint currency does not according to him arise at all. The identification of the two royal names rests, however, on very insecure foundation. In 1906 Professor Thomas made a linguistic analysis, based more or less on conjectural data, of the structure of the names of certain Śaka-Palhava rulers, and stated that the term 'Azes' was a 'short form of *Azilises*,' the ending *lises* being 'a form of *rises*, found in *Spalirises*.'[5] As the terms 'Azes' and 'Azilises' are thus linguistically the same, Konow would argue that the persons who are known to us by these names must necessarily also be identical. And quite in keeping with this procedure he maintains that the identity of the titles assumed by Azes and Azilises on the coins, which are supposed to be their joint issues, 'raises a strong presumption in favour of identifying the two names.' But in the first place, there is linguistic affinity and only partial identity of forms between the two names, which is quite insufficient for assuming an actual identity of persons. A perfect analogy is presented by the names Spalyris and Spalirises, two members of the Vonones family. Both the words are derived from a 'Pan-Iranic' word *Spala*[6] with the addition of different terminations, just as Azes and Azilises are from *Aza*; but the kings Spalyris and

[1] *Cambridge History of India*, Vol. I, p. 573.
[2] *B. M. C.*, Pl. XXII, 3.
[3] *B. M. C.*, Pl. XXI, 7, 8, 10.
[4] *Ep. Ind.*, Vol. XVIII, pp. 272-73; and *Corpus Inscriptionum Indicarum*, Vol. II, part 1, p. XL.
[5] *J. R. A. S.*, 1906, p. 208.
[6] *Ibid*, p. 209.

Spalirises are different, according to Konow himself.[1] Secondly, identity of titles does not necessarily indicate that the persons who hold them on the obverse and reverse of a particular coin are identical. On the joint coins of Spalirises and Azes, the obverse side bears the legend 'the Great King Spalirises' and the reverse, 'the Great King Azes'. But no scholar has yet contended that as both the persons style themselves 'the Great King,' they must be considered identical. It rather shows that in case of joint issues it is customary for the kings who strike them to assume the same titles.

Interval between Maues and Gondophares.

Professor Konow further contends that the year 78 of the Taxila copper-plate, which mentions the Great King Moga, identical with Maues of the coins, and the year 103 of the Takht-i-Bahi inscription of Gondophares which is dated also in the 26th year falling in his reign, should be referred to one and the same era. The year 26 has been so far supposed to be the 26th regnal year of Gondophares; but this would make Maues and Gondophares contemporaries, if the two dates 78 and 103 refer to the same reckoning. The simultaneous reign of these princes is *primâ facie* improbable[2] for the reason that in that case it would be impossible to assign a place to Azes between them. Konow, therefore, assumes that the year 26 is not the 26th regnal year of Gondophares but must refer to an era. So that the Takht-i-Bahi inscription is dated in the 26th year of one era and 103rd year of another. There would thus be a difference of twenty-five years between the two records, or in other words, according to Konow, between Maues and Gondophares, which he thinks would satisfactorily accommodate Azes. Rapson[3] has already shown the improbability of this theory which brings Maues only within twenty-five years of Gondophares, although their coinages 'are far removed in style.' Further, to allow this interval of twenty-five years we have to make the gratuitous assumption that the reign of Maues ended and the reign of Gondophares commenced precisely at the dates 78 and 103 respectively, and not even a few years later or earlier. Also Whitehead has recorded about forty different types of the coins of Azes and about twenty-four of Azilises. To imagine that so many types of coins were issued by one king, and within the narrow span of twenty or twenty-five years, looks most unnatural. The difference in palæography of the Kharoshṭhī coin-legends of Maues and Gondophares, and of Azes I and Azilises on the one hand and Azes II and Gondophares on the other, has been already noticed above. All these circumstances can be adequately explained if we admit that *a long period*, much longer than Konow would concede, intervened between Maues and Gondophares, which, of course, would mean that the two dates 78 and 103 must be referred to *different reckonings*, whatever these might be. Thus it is not at all necessary or obligatory to assume that Azes I, Azilises and Azes II are identical and that between Maues and Gondophares there is room for one king only.

---

[1] *Corpus Inscriptionum Indicarum*, Vol. II, Part 1, p. XLI.
[2] *Cf.* Marshall, *J. R. A. S.*, 1914, p. 985.
[3] *Ibid.*, 1930, p. 193.

SECTION IX.—DEPARTMENTAL ROUTINE NOTES.

ANCIENT MONUMENTS PRESERVATION ACT AND LISTING OF MONUMENTS.

United Provinces.—(*a*) *Hindu and Buddhist Monuments.*—One hundred and sixteen monuments which appeared to be of little archæological interest were removed from the list of monuments protected by the Central Government. Of these seventy-nine will, in future, be maintained by the United Provinces Government, while notifications of protection in respect of the remainder were withdrawn.

(*b*) *Muhammadan and British Monuments.*—The tomb of Haji Iqbal, eunuch of Sadr Jahan Begam of Fyzabad, and the mosque together with the compound enclosing them were declared protected and an agreement was executed in respect of the mosque and tomb of Makhdum Jahan at Kanauj, Furrukhabad District.

Punjab.—Agreements under the Ancient Monuments Preservation Act (VII of 1904) were executed in respect of the temples at Asapuri, Baijnath, Masrur, Naggar and Dasal in the Kangra District, the mounds at Bhera and Vijhi in the Jhelum and Shahpur Districts, the Buddhist stupa at Rokhari in the Mainwali District, and the Lat of Ferozshah and Humayan's Mosque at Fattehabad in the District of Hissar.

Bombay Presidency including Sind.—Nineteen monuments were declared protected of which twelve are in the Sholapur District, two in the Ahmedabad District and one each in Khandesh, Thar and Parkar, Poona, Bijapur and Surat Districts. Two confirmatory notifications of protection in respect of three monuments, two of which are in the East Khandesh District and one in the Panch Mahals District, were issued. Changes in the sub-classifications of nine monuments in the Ahmedabad District and one in the Surat District were made by the issue of fresh notifications. An agreement was made with the Punchas of Visvesvar temple, a protected monument, at Hallur in the Bijapur District.

Two persons were prosecuted for disfiguring the Malik Maidan Gun at Bijapur and fined Rs. 10 and Rs. 50 respectively. For another minor offence in the protected area of the Kund at Kapadvanj, Kaira District, an offender was prosecuted and fined Rs. 20.

Bihar and Orissa.—Notifications for protection were withdrawn in respect of Agam Kuan at Gulzarbagh in the Patna District and Munia Bibi's tomb at Rajmahal in the District of Santal Parganas on account of their minor archæological importance.

The List of Ancient Monuments in Bihar and Orissa and the Antiquarian Map of that Province referred to in previous reports are now both in the press.

Central Provinces.—The Mahadeo temple at Bhainsdehi in the Betul District and the Pañch Maṭha group of temples at Garha in the Jubbulpur District have

been deleted from the List of Monuments in the Central Provinces as being of insufficient archæological interest, and the protection notification in respect of the Devī temple at Dhamangaon in the Betul District referred to in the *Annual Report* for 1927-28, p. 192, was withdrawn by the Local Government.

Bengal.—Five monuments, *viz.*, (1) Jorebāṅglā temple at Pabna, Pabna District, (2) Shyam Sunder temple at Madanpur, Bankura District and (3-5) Jhikati Dalan or Siddhi Mandir, Vishnu Mandir and Śiva temple at Dhanuka, Faridpur District, were added to the list of protected monuments. The owners of the Minar at Panduah, Hooghly District, entered into an agreement under Section 5 of the Ancient Monuments Preservation Act.

Madras.—The Fort at Ganjaṁ was added to the List of Monuments, and the Abdul Mahal at Abdullapuram deleted from the List.

Publications.

The following twelve publications were issued by the Department during the year 1928-29 :—

1. *Annual Report of the Archæological Survey of India* for the year 1925-26, edited by J. F. Blakiston.
2. *Annual Report on South-Indian Epigraphy* for the year ending 31st March 1927, by G. Venkoba Rao.
3. *Supplement to the Annual Report on South-Indian Epigraphy* for the year ending 31st March 1927—Stone Inscriptions of the Bombay Karnatak copied during the year 1926-27--by G. V. Srinivasa Rao.
4. *South-Indian Inscriptions Texts, Volume VI.*—Miscellaneous Inscriptions from Tamil, Talagu and Kannada countries (N. I. S., Vol. LII), by K. V. Subramanya Aiyyar.
5. *Memoir No. 25—Basreliefs of Badami*, by R. D. Banerji.
6. *Memoir No. 33.—Pallava Architecture, Part II*, by A. H. Longhurst.
7. *Memoir No. 34.—A New Inscription of Darius from Hamadan*, by Prof. E. Herzfeld.
8. *Memoir No. 36.—Dolmens of the Pulney Hills*, by A. Anglade and L. V. Newton.
9. *Sarnath Vivaraṇa* (Guide to Sarnath in Bengali), by Bhavatosh Majumdar.
10. *List of Photo-negatives of the Madras Presidency and Coorg* stored in the Office of the Superintendent, Archæological Survey, Southern Circle, Kotagiri, corrected up to 1928.
11. *Epigraphia Indica, Vol. XIX, Parts 2, 3 and 4*, edited by Dr. Hirananda Sastri.
12. *Bakhshali Manuscript* (N. I. S.. Vol. XLIII). by G. R. Kaye.

Photographs.

Director General of Archæology.—During the year under review 884 negatives were prepared. Of these 153 represent inscriptions, fragmentary frescœs and

wall paintings exhibited in the Central Asian Antiquities Museum, New Delhi; 60 are of sites and antiquities found at Taxila; 634 relate to buildings and antiquities discovered at Mohenjodaro; 33 represent Sir Aurel Stein's collection of painted pottery from Baluchistan and Waziristan and the remaining 22 are miscellaneous photographs of minor objects, drawings and other materials. In addition to these a series of 50 lantern slides of the Mohenjodaro ruins and of some interesting antiquities were prepared. Of the prints made during the year 2,652 were required for the use of departmental officers, 889 for record in the collection of albums kept at Mohenjodaro Museum and 240 for the series maintained at the Taxila Museum. From Provincial offices were received 1,359 prints which were mounted in the albums kept for reference in the Central Archæological Library at Simla. Two hundred and fifty one prints were supplied to the public the sale-proceeds of which amounted to Rs. 235-10-6.

Northern Circle, Agra.—One hundred and eighty-two negatives were added to the collection. Of these 102 were of sculptures belonging to Rai Bahadur Pandit Radha Krishna of Muttra, 65 of ancient monuments at Fyzabad, Sambhal, Rapri, Jaunpur, Agra and Delhi, while the remaining 15 were taken for sale to private persons.

Northern Circle, Lahore.—Two hundred and twenty-five negatives were prepared, of which 119 relate to the sites and antiquities at Harappa, 16 to the mound at and antiquities from Kotla Nihang in Ambala District and the rest to various monuments in the Punjab and United Provinces. In all 1,440 prints were prepared, of which the majority were sent to the Custodian, Archæological Museum, Sarnath, for local sale, 145 prints supplied gratis to the departmental officers and 106, to the value of Rs. 107-7-0, were sold to the public.

Frontier Circle.—Altogether seventy-two plates were exposed during the year. Of these 56 were required for conservation work, 4 illustrate the City Wall of Multan, 10 represent the Mughal architecture of Lahore and 2 are reproductions of the drawings of the old buildings at Lahore. 106 prints were supplied to the officers of the Department and 48 to the public for which a sum of Rs. 46-10-0 was realized.

Western Circle.—One hundred and eighty-four negatives were added to the collection. Of 845 prints made during the year, 335 were supplied to the Director General of Archæology, 129 to the officers of the Department and local Government, and 326 sold to the public for Rs. 394-10-0.

Central Circle.—Of the 306 photographs taken during the year 162 were of monuments in Bihar and Orissa and the remaining 144 of monuments in the Central Provinces. Among the former the principal photographs refer to the excavations at Nālandā. One hundred and sixty prints were supplied gratis to the departmental officers, 3 to the Bihar and Orissa Government and 62 were sold to the public.

Eastern Circle.—Three hundred and seventy-three negatives were taken during the year, among which 301 relate principally to the excavations carried out in Bengal, 22 are of ancient sites and monuments in Bengal and 38 are of monuments in Assam.

Southern Circle.—One hundred and twenty-one negatives were added to the list. Besides 69 prints, to the value of Rs. 121-4-0, which were sold to the public, 118 prints were supplied to the Director General of Archæology and 121 made for office use.

Burma Circle.—One hundred photographs were added to the collection. They relate principally to the excavations conducted during the year at Hmawza and Pagan.

Indian Museum, Archæological Section.—Forty-seven negatives were prepared during the year in the Archæological Section of the Indian Museum.

Drawings.

Director General of Archæology.—Thirty drawings were prepared in connection with excavation works carried on at Mohenjodaro in Sind and at Taxila in the Punjab.

Northern Circle, Agra.—The two temporary draftsmen with the assistance of the head draftsman completed 13 measured drawings and one pencil drawing of monuments in Delhi. In addition measurements of ten other buildings were taken and seventeen pencil drawings of plans made. Amongst these latter may be mentioned those of the Tomb of Itimad-ud-Daulah and the Taj Mahal at Agra.

Northern Circle, Lahore.—Nine drawings were prepared, of which eight refer to the excavations carried on at Harappa and one is of the Gāyatrī mound at Mathurā.

Frontier Circle.—Thirty-nine drawings were prepared, the majority of which are in connection with the proposed lay-out of the Lahore Fort and conservation works in the Punjab. They also include several tracings made for record from the plans received from the Public Works Department.

Western Circle.—Besides 132 plans and sketches required for conservation work, one new drawing of the Safa Masjid at Belgaum Fort was added to the list of measured drawings.

Central Circle.—Sixteen drawings were prepared during the year. These include 13 of the excavated remains at Nālandā.

Eastern Circle.—Altogether fifteen drawings were prepared during the year. Of these five show the different sites at Mahāsthān, Bogra District, and the rest include a plan of 'Devil's Mound' at Rāṅgāmāṭi, a survey map of Rāṅgāmāṭi and its environs, Murshidabad District, and a plan of excavations at eastern enclosure wall at Pāhārpur, Rajshahi District.

Southern Circle.—Ten drawings and six tracings were prepared during the year in the Southern Circle.

Burma Circle.—No fresh drawings were added to the list during the year but the following were redrawn on reduced scales, *viz.*, (1) Sketch of paintings on the walls of subsidiary stupas on the roof of the Patothamya temple, Pagan, (2 and 3) Plan and section of the Gawdawpalin temple, Pagan, (4) Plans of the Thabbyinnya temple, Pagan, (5) Plans of the Tilominlo temple, Pagan, and (6) Map of Śrīkshetra, Old Prome.

PERSONNEL.

The Director General, Sir John Marshall, was placed on special duty for a term of seven and a half years from September 6th, 1928. Mr. J. F. Blakiston, in addition to his own duties as Deputy Director General of Archæology, was appointed to officiate as Director General with effect from the 6th September 1928 till he was relieved by Mr. H. Hargreaves, who on his return from leave assumed charge of the office of the Director General with effect from the 8th October 1928, Mr. Blakiston reverting to his original post of Deputy Director General. Rai Bahadur Daya Ram Sahni continued as Deputy Director General for Exploration, and Mr. E. J. H. Mackay, Assistant Superintendent for Exploration, was designated 'Special Officer for Exploration' with effect from the 1st October 1928. Mr. N. G. Majumdar and Dr. Mohd. Abdul Hamid continued as Assistant Superintendent for Exploration and Assistant Archæological Chemist respectively. Consequent to the transfer of Mr. B. L. Dhama, as Officiating Superintendent, Muhammadan and British Monuments, to the Northern Circle, Agra, on the 31st March 1928, Mr. H. H. Khan, Assistant Superintendent in the Western Circle took over charge of the Central India and Rajputana Circle with effect from the 5th April 1929.

Khan Bahadur Mian Wasiud Din, Personal Assistant to the Superintendent, Frontier Circle, continued to act as Officiating Superintendent till 11th April 1928, when he was relieved by Khan Bahadur Maulvi Zafar Hasan transferred from the Northern Circle, Agra. Mr. Murari Lal Arora, Conservation Assistant of the Northern Circle, Agra, acted as officiating incumbent of the newly created post of Assistant Engineer from the 27th April 1928 till the afternoon of 10th December 1928 when he made over charge to Dr. Khwaja Ali Akhtar Ansari appointed on probation for two years. In the Central Circle, Mr. J. A. Page, Superintendent, went on leave for four months with effect from 22nd July 1928 and Mr. Q. M. Moneer, Persian and Arabic Scholar officiated for him. Rai Bahadur Ramaprasad Chanda, Superintendent, Archæological Section, Indian Museum, was on leave from the 15th October 1928 to the 14th January 1929 and an Assistant Curator, Pandit B. B. Bidyabinod, officiated for him.

Mr. G. Venkoba Rao, Assistant Archæological Superintendent for Epigraphy at Madras, retired on the 16th May 1928 after a long service of 33 years and in his place Mr. S. V. Visvanatha, M.A., L.T., was taken on probation for two years with effect from the 1st December 1928. During the intervening period of seven months Mr. G. V. Srinivasa Rao, B.A., the Senior Assistant, took over charge of the current duties of the office. It is with regret that I have to record the death of Mr. Venkoba Rao which took place within a few months of his retirement. Mr. Venkoba Rao was a sound Dravidian scholar and the Annual Reports on South Indian Epigraphy for the years 1919 to 1927 bear testimony to his scholarship, industry and energy, and South Indian Epigraphy is a loser by his demise. The vacant post of the Assistant Superintendent for Epigraphy in the office of the Government Epigraphist for India at Ootacamund was filled up by the appointment on probation for two years of Dr. N. P. Chakravarti, M.A., Ph.D. (Cantab).

SCHOLARSHIPS.

The three scholarships for Sanskrit, Persian and Arabic, and Architecture awarded to Messrs. Hargovind Lal Srivastava, M.A., Q. M. Moneer, B.A., and Shib Charan Mukherji, B.A., respectively, were extended for a further period of one year.

APPENDIX I.

List of exhibits other than coins acquired for the Indian Museum, Archæological Section, during the year 1928-29.

PURCHASED.

1. *(7584)*.—Bronze image of Manikavasakara (Saivite saint). From Settipulam, Tirutturaipundi Taluk, District Tanjore. 2′ 1″×9¼″.

2. *(7585)*.—Bronze dancing image of Bālasubramaṇya (son of Siva). From Settipulam, Tirutturaipundi Taluk, District Tanjore. 1′ ⅜″×1′.

3. *(7588)*.—Stone figure of Durgà slaying the buffalo demon. From Dalmi, District Manbhum, Bihar and Orissa. 5′ × 2′ 3″.

4. *(7589)*.—Standing figure of Jina Ṛishabhanātha with the bull below his feet and a chauri bearer and two attendant standing figures on each side. From Dalmi, District Manbhum, Bihar and Orissa. 1′ 8″×10″.

5. *(7590)*.—Grey sandstone figure of Brahmā. From Benares. 2′ 4¾″×1′ 2½″.

6. *(7591)*.—Reddish sandstone slab bearing the image of Bhairava with a worshipper performing *ārati*. From Benares. 1′ 8½″×12½″.

TREASURE TROVE.

7. *(7587)*.—Stone image of Revanta on horse-back. From Chancharipasa, District Bakarganj, Bengal. 10½″×7″.

PRESENTATIONS.

Presented by Babu Mahendra Nath Kulobhi.

8. *(7582)*.—Stone figure of Child Kṛishṇa. From Punra, District 24-Parganas, Bengal. 1′ × 6″.

Presented by E. F. O. Murray, Esqr., Mining Engineer, Tatanagar.

9. *(7586)*.—Stone flakes and other stone implements. From Dhalbhum Pargana near Tatanagar, District Singbhum, Bihar and Orissa (1—134).

Presented by Maulavi Muhammad Safatulla of Berhampore.

10. *(7592)*.—Persian inscription on a stone slab recording the date of erection of a mosque in 1212 H. (1796-97 A.D.) by Fakir Talib. From Berhampore, District Murshidabad, Bengal. 9½″×12½″.

On loan from the Director General of Archæology in India.

FROM AHAR.

11-82. *(6962-7033)*.—Terracotta and other objects.

FROM AMB.

83. (*7034*).—Blurred terracotta human head. 4″×2″.

84. (*7035*).—Stone lion on pedestal. $9\frac{3}{4}$″ height.

85. (*7036*).—Broken stone male figure holding a vessel in left hand. 11″×5″.

86. (*7037*).—Ayāgapaṭṭa slab with elephants and other animal figures. $7\frac{1}{2}$″×$4\frac{3}{4}$″.

87. (*7038*).—Narasiṁha in stone. 23″×12″.

88. (*7039*).—Devi in a panel of stone. $14\frac{1}{2}$″×$12\frac{1}{2}$″×6″.

FROM BILSAR.

89-106. (*7040-57*).—Pottery.

107. (*7058*).—Fragment of stone sculpture (Vishṇu). $5\frac{1}{2}$″×$3\frac{3}{4}$″.

108. (*7059*).—Stone figure of Buddha in meditation with a standing attendant on either side. 4″×$4\frac{3}{4}$″.

109-150. (*7060-7101*).—Terracotta.

151. (*7102*).—Stone image of Bodhisattva. $11\frac{1}{2}$″×$4\frac{3}{4}$″.

FROM CHAITRU.

152-53. (*7103-04*).—Pottery.

FROM KURUKSHETRA.

154-221. (*7105-7172*).—Pottery.

222. (*7173*).—Circular steatite casket. Diameter $1\frac{7}{8}$″× height $\frac{13}{16}$″.

223-444. (*7144-7395*).—Pottery.

FROM KOSAM.

445-536. (*7396-7487*).—Pottery.

537-38. (*7488-89*).—Stone heads. $2\frac{1}{4}$″, $2\frac{7}{8}$″.

539-552. (*7490-7503*).—Pottery.

553. (*7504*).—Torso of a stone image of Kārttikeya. $2\frac{1}{4}$″×$1\frac{1}{2}$″.

554. (*7505*).—Piece of stone dish with a deer in relief. $2\frac{3}{8}$″×$1\frac{5}{8}$″.

555-566. (*7506-7517*).—Pottery.

567. (*7518*).—Fragment of a stone image. $5\frac{1}{2}$″×$5\frac{1}{4}$″.

568-597. (*7519-7548*).—Pottery.

598. (*7549*).—Two human figures of stone carved in relief. 5″×$5\frac{1}{4}$″.

599-621. (*7550-7572*).—Pottery.

FROM ROKHARI.

622-625. (*7573-76*).—Pottery.

FROM UNKNOWN LOCALITIES.

626-628. (*7577, 7780-81*).—Pottery.

629-630. (*7778-7779*).—Stone head and broken Trimūrti image of stone.

631. (*7583*).—Stone seal representing a galloping horse on one side and a running elephant on the other. Diameter ·1″.

632-1154. (*7593-8115*) (*A-H*).—Engraved gems, metal rings and other antiquities collected by G. G. Pearse.

APPENDIX I.—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29.

I. Non-Muhammadan.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Vāsudeva . .	Kushān . .	..	..	1	..	..	1	Lent by the Director General of Archæology.
Worn out .	Do. . .	..	..	9	..	..	9	Do.
Pratāpāditya II .	Kashmir . .	21	..	..	..	..	21	Presented by the Government of the United Provinces.
Jam Saheb . .	Kathiawar . .	..	..	1	..	..	1	Presented by R. Ashley, Esqr., A.-D.-C. to His Excellency the Governor of Bombay.
	Total .	21	..	11	..	..	32	

II. Muhammadan.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Muhammad bin Sam	Ghorid . .	..	..	1	..	..	1	Lent by the Director General of Archæology.
Ghias-ud-Din Balban	Sultan of Delhi .	..	..	1	..	..	1	Do.
Sikandar Shah . .	Gujrat . .	..	..	1	..	..	1	Do.
Unassigned .	Sultan of Delhi .	..	..	1	..	..	1	Do.
Sher Shah . .	Suri	..	..	30	..	..	30	Presented by the Punjab Government.
Islam Shah . .	Do.	..	..	49	..	..	49	Do.
Muhammad Adil Shah	Do.	..	..	4	..	..	4	Do.
Sikandar Shah . .	Do.	..	..	2	..	..	2	Do.
Humayun . .	Mughal . .	..	..	1	..	..	1	Lent by the Director General of Archæology.
Akbar . . .	Do. . .	..	..	1	..	..	1	Do.
Do. . . .	Do. . .	..	..	5	..	..	5	Do.
Do. . . .	Do. . .	..	4	..	..	..	4	Presented by the Government of the United Provinces.
Jahangir . . .	Do. . .	..	2	..	..	..	2	Do.
Shah Jahan . .	Do. . .	..	3	..	..	..	3	Do.

APPENDIX I.—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29—contd.

II. Muhammadan—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Aurangzeb . .	Mughal . .	..	12	..	..	..	12	Presented by the Director of Industries, Central Provinces.
Do. . .	Do. . .	..	1	..	..	..	1	Presented by the Government of the United Provinces.
Shah Alam I . .	Do. . .	..	1	..	..	..	1	Presented by the Director of Industries, Central Provinces.
Muhammad Shah .	Do. . .	..	2	..	..	..	2	Presented by the Government of the United Provinces.
Ahmad Shah . .	Do. . .	..	8	..	..	..	8	Presented by the Government of Bengal.
Alamgir II . .	Do. . .	..	3	..	..	..	3	Do.
Shah Alam II . .	Do. . .	..	1	..	..	..	1	Presented by the Government of the United Provinces.
Do. . .	Do. . .	..	13	..	..	..	13	Presented by the Director of Industries, Central Provinces.
Do. . .	Do. . .	..	5	..	..	..	5	Presented by the Bombay Branch, Royal Asiatic Society.
Unassigned .	Native State .	..	..	1	..	..	1	Lent by the Director General of Archæology.
Do. . .	Do. .	..	..	2	..	..	2	Do.
	Total .	..	55	99	..	..	154	

PEARSE COLLECTION OF COINS.

I. Non-Muhammadan.

Punch marked .	..	2	40	15	..	..	57	Lent by the Director General of Archæology.
Alexander the Great	Macedon . .	..	3	..	..	..	3	Do.
Lysimachus . .	Thrace . .	..	1	..	..	..	1	Do.

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29—contd.

PEARSE COLLECTION OF COINS—*contd.*

I. Non-Muhammadan—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acqusition.
Antiochus I	Seleucid	..	1	..	..	..	1	Lent by the Director General of Archæology.
Do. II	Do.	..	1	..	..	..	1	Do.
Diodotus I under Antiochus II.	Bactria	..	1	..	..	..	1	Do.
Diodotus II	Do.	1	..	..	..	..	1	Do.
Euthydemos	Do.	1	2	..	..	..	3	Do.
Demetrios	Indo-Greek	..	2	..	..	..	2	Do.
Eukratides	Do.	..	2	1	..	..	3	Do.
Antialkidas	Do.	..	2	..	..	..	2	Do.
Apollodotos	Do.	..	2	3	..	..	5	Do.
Strato I	Do.	..	1	..	..	..	1	Do.
Menander	Do.	..	10	4	1	..	15	Do.
Zoilos	Do.	..	1	..	..	..	1	Do.
Antimachos Nikephoros.	Do.	..	1	..	..	..	1	Do.
Hermaios	Do.	..	1	..	..	..	1	Do.
Unidentified	Do.	..	6	5	..	..	11	Do.
Azes I	Indo-Parthian	..	3	1	..	..	4	Do.
Azilises	Do.	..	1	..	..	..	1	Do.
Azes II	Do.	..	..	1	..	..	1	Do.
Gondophares	Do.	..	..	1	..	..	1	Do.
Abdagases	Do.	..	..	1	..	..	1	Do.
Soter Megas	Do.	..	..	1	..	..	1	Do.
Unassigned	Do.	..	..	1	..	..	1	Do.
Mithradates II	Parthian	..	1	..	..	..	1	Do.
Phraates IV	Do.	..	1	..	..	..	1	Do.
Mithradates IV (?)	Do.	..	1	..	..	..	1	Do.
Unidentified	Do.	..	6	1	..	..	7	Do.
Kadphises I	Kushan	..	..	4	..	..	4	Do.
Do. II	Do.	2	..	3	..	..	5	Do.
Kanishka	Do.	..	..	16	..	..	16	Do
Huvishka	Do.	5	..	2	..	..	7	Do

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29— contd.

PEARSE COLLECTION OF COINS—*contd.*

I. Non-Muhammadan—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Vāsudeva . .	Kushan . .	..	..	2	..	..	2	Lent by the Director General of Archæology.
Illegible . . .	Do. . .	..	..	7	..	..	7	Do.
	Sassanian . .	..	2	..	..	..	2	Do.
Bhadra . . .	Indo-Scythic .	1	..	..	..	..	1	Do.
Bacharna. . .	Do. .	2	..	..	..	..	2	Do.
Unassigned . .	Do. .	..	..	3	..	..	3	Do.
	Kushano-Sassanian	1	..	..	..	..	1	Do.
	Puri-Kushan .	..	..	4	..	..	4	Do.
Chandragupta II .	Gupta . .	2	..	..	..	..	2	Do.
Kumāragupta . .	Do. . .	1	..	..	..	..	1	Do.
Prakāśāditya . .	Do. . .	1	..	..	..	..	1	Do.
Rudrasiṁha . .	W. Satrap . .	..	1	..	..	..	1	Do.
Rudrasena . .	Do. . .	..	2	..	..	..	2	Do.
	Do. . .	..	1	..	..	..	1	Do.
	Taxila . .	..	..	10	..	..	10	Do.
Amoghabhūti . .	Kuninda . .	..	1	3	..	..	4	Do.
Agnimitra . .	Panchala . .	..	..	1	..	..	1	Do.
Phalguṇimitra . .	Do. . .	..	..	1	..	..	1	Do.
Unassigned ancient cast coins of Northern India.	..	..	5	102	14	..	121	Do.
Early anonymous .	..	1	..	..	..	..	1	Do
Local coins of Northern India.	..	..	..	4	..	..	4	Do.
	Andhra . .	..	..	..	152	..	152	Do
	Indo-Sassanian .	..	4	2	..	..	6	Do.
Spalapatideva . .	Ohind . .	..	3	1	..	..	4	Do.
Sāmantadeva . .	Do. . .	..	2	2	..	..	4	Do.
Vakkadeva . .	Do. . .	..	..	2	..	..	2	Do.
Gāṅgeyadeva . .	Kalachuri . .	3	..	..	..	..	3	Do.
	Kalachuri of Kalyana.	6	..	..	..	..	6	Do.

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29— contd.

PEARSE COLLECTION OF COINS—*contd.*

I. Non-Muhammadan—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Govindachandra	Rathor	1	..	..	..	..	1	Lent by the Director General of Archæology.
Pṛithvīrāja	Chauhan	..	..	1	..	..	1	Do.
Chāhaḍadeva	Narwar	..	..	2	..	..	2	Do
Toramāṇa	Kashmir	..	1	2	..	..	3	Do.
Pratāpāditya II	Do.	..	..	2	..	..	2	Do.
Vinayāditya	Do.	..	1	2	..	..	3	Do.
Vigraha	Do.	..	1	1	..	..	2	Do.
Śaṅkaravarman	Do.	..	..	1	..	..	1	Do.
Gopālavarman	Do.	..	..	1	..	..	1	Do.
Sugandhā Rāṇī	Do.	..	..	1	..	..	1	Do.
Parṇagupta	Do.	..	..	1	..	..	1	Do.
Kshemagupta	Do.	..	..	2	..	..	2	Do.
Diddā Rāṇī	Do.	..	..	5	..	..	5	Do.
Saṁgrāma	Do.	..	..	3	..	..	3	Do.
Ananta	Do.	..	..	1	..	..	1	Do.
Kalaśa	Do.	..	..	3	..	..	3	Do.
Harsha	Do.	..	..	2	..	..	2	Do.
Jāgadeva	Do.	..	..	3	..	..	3	Do.
Unassigned	Do.	..	1	1	..	..	2	Do.
Sāmanta Deva	..	..	..	1	..	..	1	Do.
Pīthama Ch. Deva	Kangra	..	..	2	..	..	2	Do.
Apūrva Ch. Deva	Do.	..	..	3	..	..	3	Do.
Rūpa Ch. Deva	Do.	..	..	1	..	..	1	Do.
Siṅgāra Ch. Deva	Do.	..	..	4	..	..	4	Do.
Megha Ch. Deva	Do.	..	..	1	..	..	1	Do.
Hari Ch. Deva	Do.	..	..	3	..	..	3	Do.
Avatāra Ch. Deva	Do.	..	..	1	..	..	1	Do.
Triloka Ch. Deva	Do.	..	1	4	..	..	5	Do.
Worn out	Do.	..	..	3	..	..	3	Do.
	Nepal	..	3	1	..	..	4	Do.
	Arakan and Burma	..	31	5	..	..	36	Do.

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29—contd.

PEARSE COLLECTION OF COINS—*contd.*

I. NON-MUHAMMADAN—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Worn out . .	Chālukya . .	17	..	..	..	..	17	Lent by the Director General of Archæology.
	E. Chālukya .	10	..	..	..	..	10	Do.
	Chera . . .	3	..	29	..	..	32	Do.
Rājarāja . . .	Chola . . .	1	..	..	..	..	1	Do.
Uttama . . .	Do. . . .	4	..	..	..	..	4	Do.
Yuddha Malla . .	Do. . . .	1	..	..	..	..	1	Do.
Unidentified . .	Do. . . .	17	1	62	..	..	80	Do.
	Later Chola .	..	..	14	..	..	14	Do.
Padma Ṭaṅka . .	..	5	..	..	..	..	5	Do.
Rāma Ṭaṅka . .	..	8	..	..	..	..	8	Do.
Jayakēśn III . .	Kadamba . .	1	..	..	..	..	1	Do.
	Do. . .	..	1	..	..	..	1	Do.
Vishṇuvardhana .	Yādava of Dvārasamudra.	2	..	..	..	..	2	Do.
	Pallava . .	1	..	..	..	..	1	Do.
	Pāṇḍyan . .	9	..	155	..	..	164	Do.
Gajapati Pagoda .	..	1	..	..	..	..	1	Do.
	Bijapur . .	4	..	..	..	..	4	Do.
	Malabar . .	3	..	..	..	..	3	Do.
	Koṅgu . .	2	..	..	..	..	2	Do.
	Kakatiya of Warangal.	5	..	..	..	..	5	Do.
	Kadamba of S. Marhatta.	5	..	..	..	..	5	Do.
	Kangani . .	2	..	..	..	..	2	Do.
	Malabar Tare .	..	9	..	..	..	9	Do.
	Kurumbara .	..	1	..	..	..	1	Do.
South Indian Die Coins.	..	2	..	..	..	..	2	Do.
Vira Rāya . .	Mysore . .	7	21	..	..	..	28	Do.
Krishṇa Rāja . .	Do. . .	..	7	10	..	..	17	Do.
Haidar Ali . .	Do. . .	1	..	..	..	..	1	Do.
	Travancore . .	54	25	..	..	..	79	Do.

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29—contd.

PEARSE COLLECTION OF COINS—*contd.*

I. NON-MUHAMMADAN—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Rāma Varmā . .	Travancore . .	4	..	..	..	..	4	Lent by the Director General of Archæology.
Śrī Pratāpadeva Rāya	Vijayanagar .	1	..	..	..	..	1	Do.
Harihara . .	Do. . .	1	..	..	..	..	1	Do.
Kṛishṇadeva Rāya .	Do. . .	5	..	..	..	..	5	Do.
Achyuta Rāya . .	Do. . .	5	..	..	..	..	5	Do.
Sadāśiva Rāya .	Do. . .	2	..	..	..	..	2	Do.
Śrī Veṅkaṭadeva Rāya.	Do. . .	5	..	..	..	..	5	Do.
Śrī Chikkadeva Rāya.	Do. . .	2	..	..	..	..	2	Do.
Unidentified . .	Do. . .	57	1	81	..	..	139	Do.
Other South Indian coins.	..	109	177	2,072	..	..	2,358	Do.
Kahavana . .	Ceylon . .	2	..	..	..	..	2	Do.
Līlāvatī . . .	Do. . .	..	..	1	..	..	1	Do.
Sāhasamalla . .	Do. . .	..	..	3	..	..	3	Do.
George III . .	Do. . .	..	..	3	..	..	3	Do.
	Do. . .	7	4	50	..	..	61	Do.
Miscellaneous unidentified.	..	..	13	71	..	..	84	Do.
Native States . .	..	..	19	49	3	..	71	Do.
	Kota . . .	..	..	1	..	..	1	Do.
	East India Company (English).	6	..	128	..	..	134	Do.
Victoria . . .	Do. . .	..	7	3	..	..	10	Do.
William III . .	Do. . .	..	2	..	..	..	2	Do.
William IV . .	Do. . .	..	1	..	..	..	1	Do.
	East India Company (French).	2	10	12	..	..	24	Do.
	Japanese . .	..	1	..	..	..	1	Do.
	Japanese token .	..	..	5	..	..	5	Do.
	Tibetan . .	..	3	..	..	..	3	Do.
	European . .	3	61	212	10	..	286	Do.
George III . .	England . .	..	1	..		..	1	Do.

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29— contd.

PEARSE COLLECTION OF COINS—*contd.*

I. NON-MUHAMMADAN—*concld.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Victoria . . .	England . .	..	11	23	..	..	34	Lent by the Director General of Archæology.
Edward VII . .	Do. . .	..	..	3	..	..	3	Do.
? . .	Do. . .	..	..	1	..	..	1	Do.
	Venetian . .	5	..	..	..	..	5	Do.
	Roman . .	4	74	116	..	..	194	Do.
Napolean III . .	French . .	1	..	..	..	..	1	Do.
	United States .	1	1	..	..	..	2	Do.
Justinus I . .	Byzantine . .	1	..	..	..	..	1	Do.
Leo I . . .	Do. . .	1	..	..	..	..	1	Do.
	Do. . .	1	..	..	..	..	1	Do.
Joannes V . .	Portugal . .	..	..	1	..	..	1	Do.
Joannes VI . .	Do. . . .	..	..	1	..	..	1	Do.
	German . .	..	..	2	..	..	2	Do.
Chinese Cash . .	..	..	..	1	..	..	1	Do.
Victoria . . .	Cyprus . .	..	..	1	..	..	1	Do.
Do. . . .	Nova Scotia .	..	..	1	..	..	1	Do.
Do. . . .	Straits Settlements	..	..	1	..	..	1	Do.
Do. . . .	Hongkong . .	..	..	3	..	..	3	Do.
Do. . . .	British India .	..	8	..	..	..	8	Do.
	Nayaka . .	..	..	37	..	..	37	Do.
	Famine Token .	..	..	1	..	..	1	Do.
	British Token .	..	..	..	2	..	2	Do.
	Medal and seal .	..	2	1	1	..	4	Do.
	TOTAL .	420	611	3,421	183	..	4,635	

II. MUHAMMADAN.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Al-Walid . .	Omayyid Khalif .	1	..	..	..	..	1	Do.
Subuktigin . .	Ghaznawee . .	..	2	..	..	..	2	Do.
Mahmud . . .	Do. . .	..	1	2	..	..	3	Do.
Bahram Shah . .	Do. . .	..	..	..	..	1 Glass.	1	Do.

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29—contd.

PEARSE COLLECTION OF COINS—*contd.*

II. MUHAMMADAN—*contd.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Ala-ud-Din Mohammad.	Khawarizm Shahi	..	2	1	..	..	3	Lent by the Director General of Archæology.
Sultan Jalal-ud-Din.	Do.	..	..	4	..	..	4	Do.
Ghias-ud-Din Mohammad bin Sam.	Ghorid	..	2	..	..	..	2	Do.
Shams-ud-Din Altamash.	Sultan of Delhi	..	..	..	..	2	2	Do.
Jalal-ud-Din Firoz	Do.	..	..	2	..	..	2	Do.
Ala-ud-Din Mohammad.	Do.	..	1	11	..	..	12	Do.
Qutub-ud-Din Mubarak.	Do.	..	..	5	..	..	5	Do.
Ghias-ud-Din Tughlaq.	Do.	..	..	..	..	12	12	Do.
Mohammad bin Tughlaq.	Do.	1	..	15	..	..	16	Do.
Sikandar Shah	Do.	..	..	3	..	..	3	Do.
Mubarak Shah	Do.	..	..	15	..	..	15	Do.
Mohammad bin Farid	Do.	..	..	1	..	..	1	Do.
Sikandar Shah	Kashmir	..	..	4	..	..	4	Do.
Muhammad Shah	Do.	..	..	2	..	..	2	Do.
Fath Shah	Do.	..	..	1	..	..	1	Do.
Mohammad Hasan Shah.	Do.	..	..	2	..	..	2	Do.
Ghias-ud-Din	Bahmani	..	..	14	..	..	14	Do.
Shams-ud-Din	Do.	..	..	1	..	..	1	Do.
Firoz Shah	Do.	..	..	1	..	..	1	Do.
Mahmud Shah	Do.	..	1	3	..	..	4	Do.
Ahsan Shah	Do.	..	..	7	..	..	7	Do.
Qutub-ud-Din Firoz	Do.	..	..	3	..	..	3	Do.
Adil Shah	Bijapur	..	8 (Larins)	4	..	..	12	Do.
Ghias-ud-Din	Malwa	..	1	1	..	..	2	Do.
Amir Timur	Timurid	..	1	..	..	..	1	Do.
Sultan Ahmad	Do.	..	1	..	..	..	1	Do.
Nasir-ud-Din Mohammad Qurlugh.	Sind	..	..	..	..	3	3	Do.
Humayun	Mughal	..	..	2	..	..	2	Do.
Akbar	Do.	..	4	1	..	..	5	Do.
Jahangir	Do.	..	1	1	..	..	2	Do.
Shah Jahan	Do.	..	2	..	..	..	2	Do.
Aurangzeb	Do.	..	2	1	..	..	3	Do.

APPENDIX I—*contd.*

List of coins acquired for the Indian Museum, Archæological Section, during the year 1928-29 concld.

PEARSE COLLECTION OF COINS—*concld.*

II. MUHAMMADAN—*concld.*

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Lead.	Billon.	Total.	Mode of acquisition.
Shah Alam I	Mughal	..	1	..	..	..	1	Lent by the Director General of Archæology.
Jahandar Shah	Do.	..	1	..	..	..	1	Do.
Farrukhsiyar	Do.	..	1	..	..	..	1	Do.
Rafi-ud-Darajat	Do.	..	1	..	..	..	1	Do.
Muhammad Shah	Do.	..	2	1	..	..	3	Do.
Ahmad Shah	Do.	..	1	..	..	..	1	Do.
Alamgir II	Do.	..	8	..	..	..	8	Do.
Shah Alam II	Do.	..	36	13	..	..	49	Do.
Atabek Nasir-ud-Din Mahmud.	Musel	..	..	1	..	..	1	Do.
Mahmud	Osmanly	..	1	..	..	..	1	Do.
Abdul Hamid	Do.	..	1	..	..	..	1	Do.
Abdul Mazid Khan	Do.	..	..	..	..	1 Brass.	1	Do.
Muhammad II	Morocco	..	1	..	..	..	1	Do.
Khan of Bokhara	..	..	..	1	..	..	1	Do.
Jahan Shah	Koshan	..	..	1	..	..	1	Do.
Amir Sher Ali	Afghan	..	1	..	..	..	1	Do.
Amir Yakub	Do.	..	1	..	..	..	1	Do.
Unassigned	Do.	..	1	..	..	..	1	Do.
Tipu Sultan	Mysore	12	13	116	..	..	141	Do.
Ali Raja	Cananore	..	2	..	..	..	2	Do.
Nawab of Cananore	..	..	..	1	..	..	1	Do.
Nawab of Carnatic	..	..	..	2	..	..	2	Do.
Ghazi-ud-Din Haider	Oudh	..	1	..	..	..	1	Do.
Wajed Ali Shah	Do.	..	1	..	..	..	1	Do.
Afzal Shah	Hyderabad	..	1	..	..	..	1	Do.
Asafjah	Do.	..	1	1	..	..	2	Do.
Native States	..	2	1	3	..	..	6	Do.
East India Company	..	1	17	16	..	..	34	Do.
Unassigned	South India	7	1	12	..	..	20	Do.
Do.	..	..	..	6	..	..	6	Do.
	TOTAL	24	124	281	..	19	448	
	GRAND TOTAL	444	735	3,702	183	19	5,083	

APPENDIX I—*contd.*

List of exhibits other than coins acquired for the Delhi Fort Museum during the year 1928-29.

ON LOAN FROM THE DIRECTOR GENERAL OF ARCHÆOLOGY IN INDIA.

1. Bronze Celestial Sphere.
2. Portrait of Timur with some of his attendants.
3. Portrait of Sultan Shuja with a lady and two female singers.

List of coins acquired for the Delhi Fort Museum during the year 1928-29.

Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Total.	Mode of acquisition.
Akbar	Mughal	..	18	..	18	Presented by the Government of the United Provinces.
Jahangir	Do.	..	30	..	30	Do.
Jahangir and Nurjahan	Do.	..	1	..	1	Do.
Shahjahan	Do.	..	13	..	13	Do.
Aurangzeb	Do.	..	12	..	12	Do.
Muhammad Shah	Do.	..	15	..	15	Do.
Akbar	Do.	..	..	1	1	Presented by the Director of Industries, Central Provinces.
Aurangzeb	Do.	..	22	..	22	Do.
Kam Bakhsh	Do.	..	1	..	1	Do.
Shah Alam Bahadur I	Do.	..	2	..	2	Do.
Jahandar Shah	Do.	..	1	..	1	Do.
Farrukhsiyar	Do.	..	9	..	9	Do.
Muhammad Shah	Do.	..	5	..	5	Do.
Shah Alam II	Do.	..	12	..	12	Do.
Sher Shah	Sur	..	..	72	72	Presented by the Punjab Government.
Islam Shah	Do.	..	..	45	45	Do.
Mohd. Adil Shah	Do.	..	..	11	11	Do.
Ibrahim Shah	Do.	..	..	1	1	Do.
Humayun	Mughal	..	..	2	2	Do.
Akbar	Do.	..	..	8	8	Do.
Ahmad Shah Bahadur	Do.	..	4	..	4	Presented by the Government of Bengal.
Alamgir II	Do.	..	1	..	1	Do.
Farrukhsiyar	Do.	..	1	..	1	Presented by the Bombay Branch, Royal Asiatic Society.
Shah Alam II	Do.	..	4	..	4	Do.

APPENDIX I—*concld.*

List of coins acquired for the Delhi Fort Museum during the year 1928-29—contd.

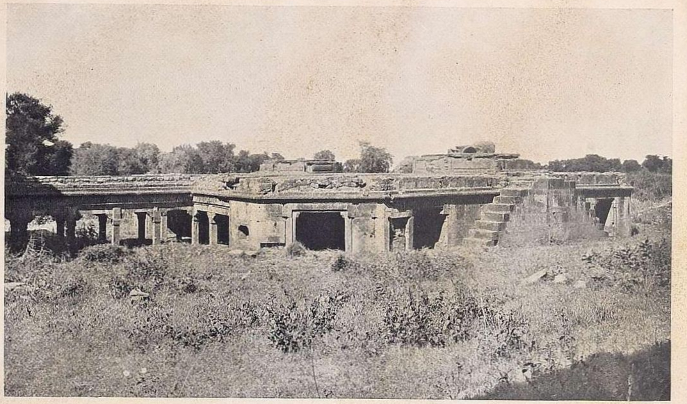
Ruler's name.	Dynasty.	Gold.	Silver.	Copper.	Total.	Mode of acquisition.
Akbar	Mughal . .	..	18	..	18	Lent by the Director General of Archæology.
Jahangir	Do.	..	2	..	2	Do.
Aurangzeb	Do.	4	..	..	4	Do.
Shah Alam Bahadur I . .	Do.	2	..	..	2	Do.
Muhammad Shah . . .	Do.	2	..	..	2	Do.
Ahmad Shah	Do.	1	..	..	1	Do.
Ghazi-ud-Din Haidar . .	King of Oudh . .	1	..	..	1	Do.
Wajid Ali Shah . . .	Do. . .	1	..	..	1	Do.
Timur Shah	Durrani . . .	..	2	..	2	Do.
Zaman Shah	Do.	..	5	..	5	Do.
	TOTAL .	11	178	140	329	

APPENDIX II.

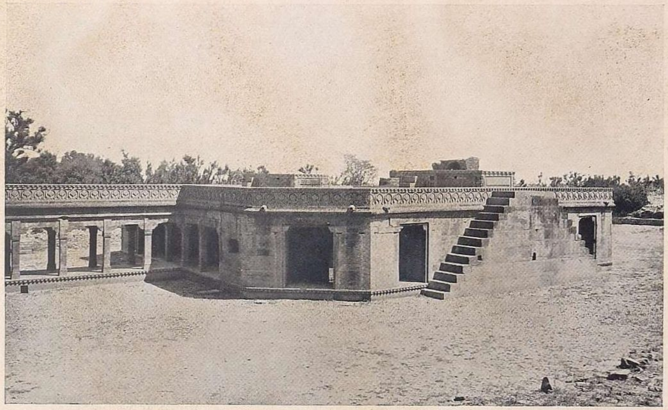
Additions to Departmental Libraries.

Name of office.	Books purchased.	Books presented.	Total.	REMARKS.
Director General	170	225	395	
Northern Circle— Muhammadan and British Monuments	22	24	46	
Hindu and Buddhist Monuments	37	25	62	
Frontier Circle	29	36	65	
Western Circle	17	13	30	In addition to these 33 periodicals, reports, etc., were received free of cost.
Central Circle	26	25	51	
Eastern Circle	21	29	50	
Southern Circle	29	38	67	
Burma Circle	59	69	128	The Siamese Government presented 1 book.
Government Epigraphist	88	76	164	
Assistant Archæological Superintendent for Epigraphy, Southern Circle.	57	49	106	Includes 12 books received in exchange.
Archæological Chemist	12	17	29	
Archæological Section, Indian Museum	71	50	121	

MGIPC—M—III-9-59—21-2-33—500.



(*a*) Fathpur Sikri. Baoli. General view, from south-west, before conservation.



(*b*) Fathpur Sikri. Baoli. General view, from south-west, after conservation.

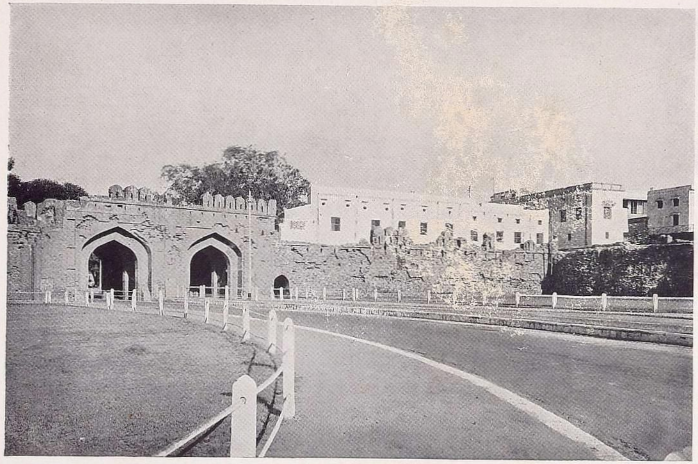
(*c*) Begampur, Delhi. Bijai Mandal. View of northern dalans, from north-east, before conservation.

(*d*) Begampur, Delhi. Bijai Mandal. View of northern dalans, from north-east, after conservation.

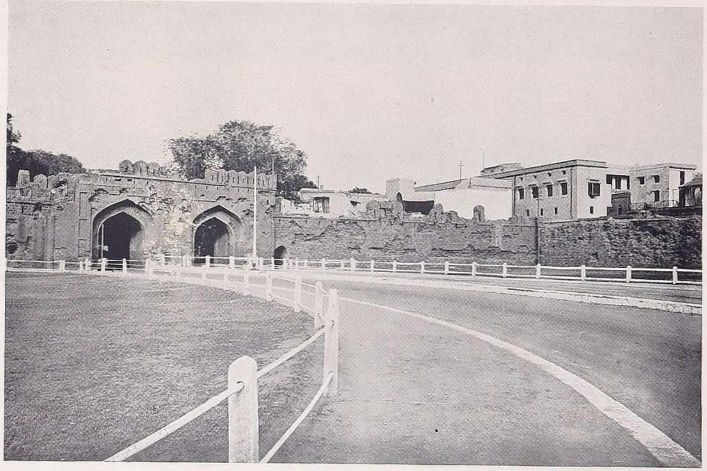
Plate I.

(*a*) DELHI. NILI MASJID AT KHARERA, FROM SOUTH-EAST, BEFORE CONSERVATION.

(*b*) DELHI. NILI MASJID AT KHARERA, FROM SOUTH-EAST, AFTER CONSERVATION.



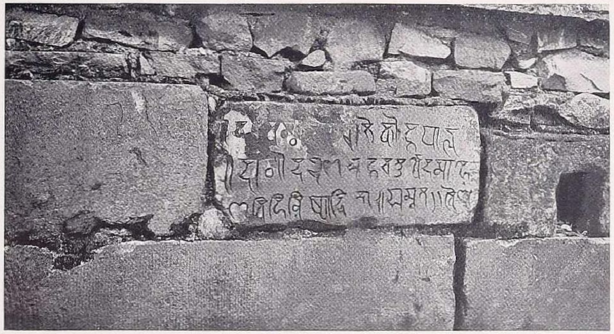
(*c*) DELHI. KASHMIRI GATE, SHOWING MODERN ADDITION, FROM NORTH-WEST, BEFORE DISMANTLING.



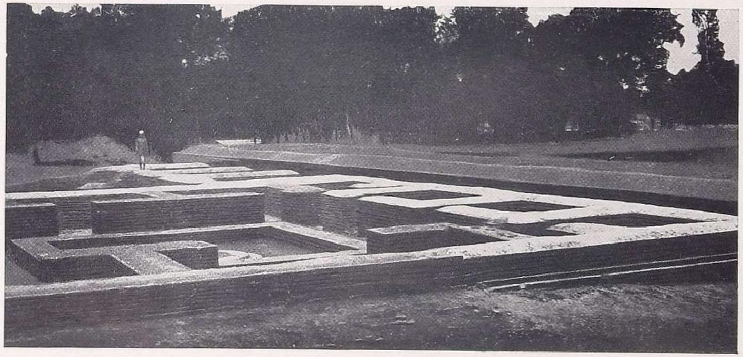
(*d*) DELHI. KASHMIRI GATE, FROM NORTH-WEST, AFTER DISMANTLING OF MODERN ADDITIONS.

PLATE II.

(*a*) JAGESVAR. COMPOUND WALL AND TEMPLES FROM NORTH-WEST, AFTER CONSERVATION.



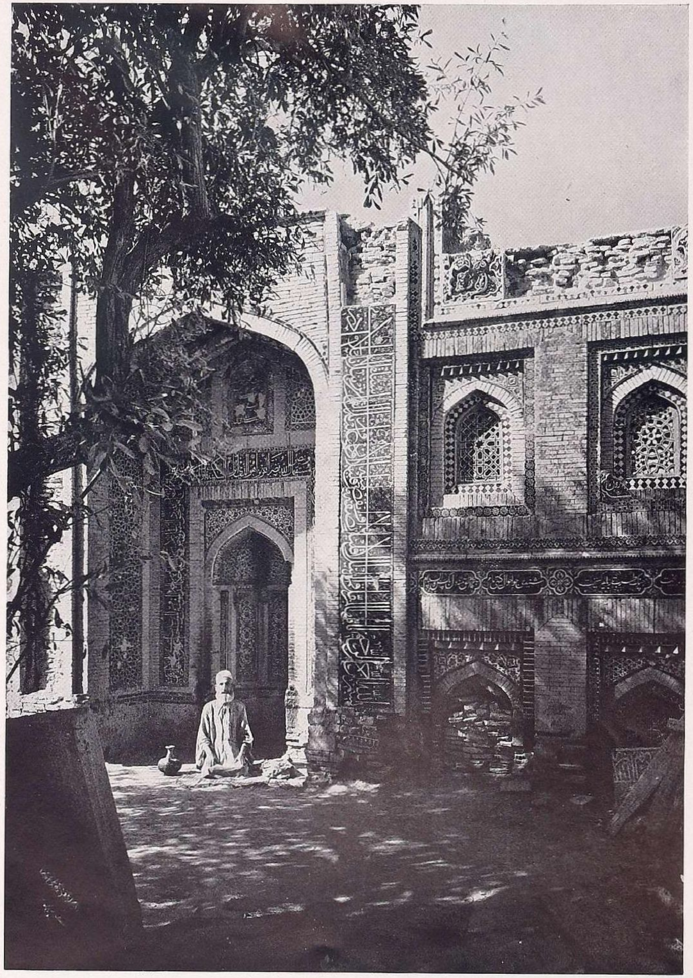
(*b*) BIJAIGARH FORT. MEDIÆVAL INSCRIPTION ON THE LEFT OF THE THIRD GATEWAY.



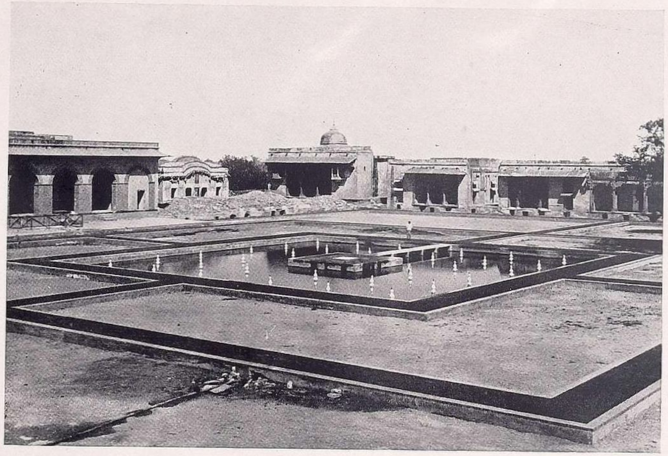
(*c*) KASIA. MONASTERIES L AND M FROM SOUTH-EAST, AFTER CONSERVATION.

PLATE III.

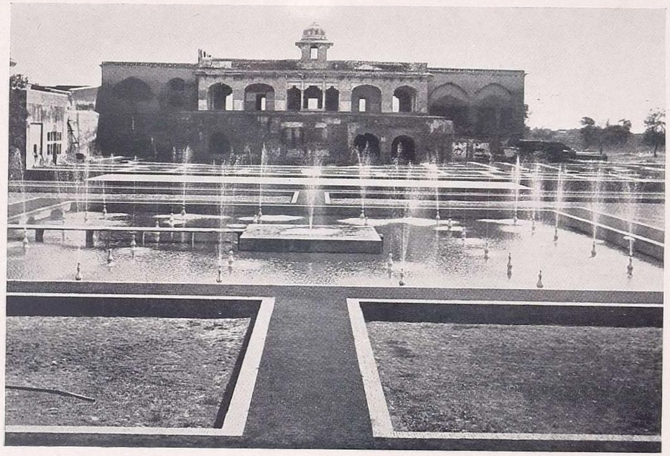
(*a*) JAGESVAR. NAVADEVI SHRINE FROM SOUTH-WEST, AFTER CONSERVATION.



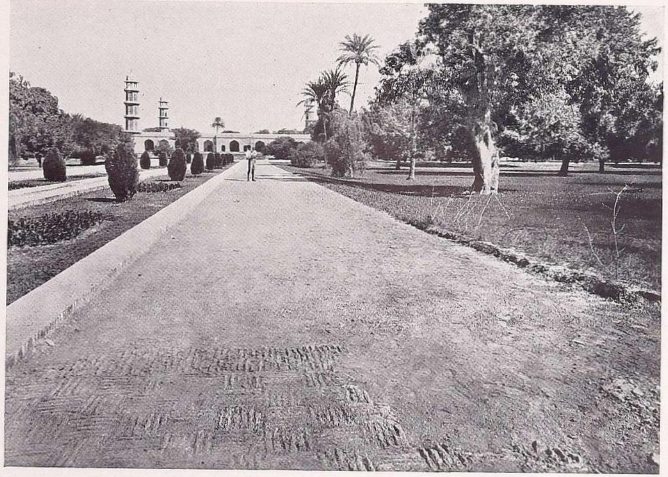
(*b*) MULTAN. SAWI MASJID, BEFORE CONSERVATION.



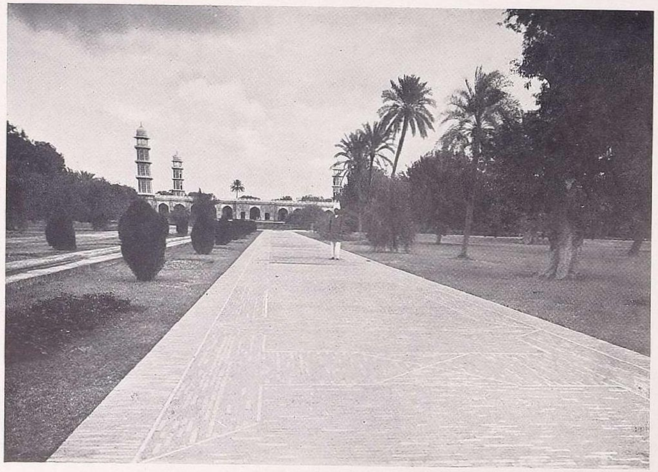
(a) LAHORE FORT. JAHANGIR'S QUADRANGLE, THE CENTRAL TANK WITH NEW MARBLE FOUNTAINS.



(b) LAHORE FORT. JAHANGIR'S QUADRANGLE, NEW FOUNTAINS PLAYING.



(c) SHAHDARA. JAHANGIR'S TOMB, SOUTHERN SECTION OF WESTERN CAUSEWAY, BEFORE CONSERVATION.

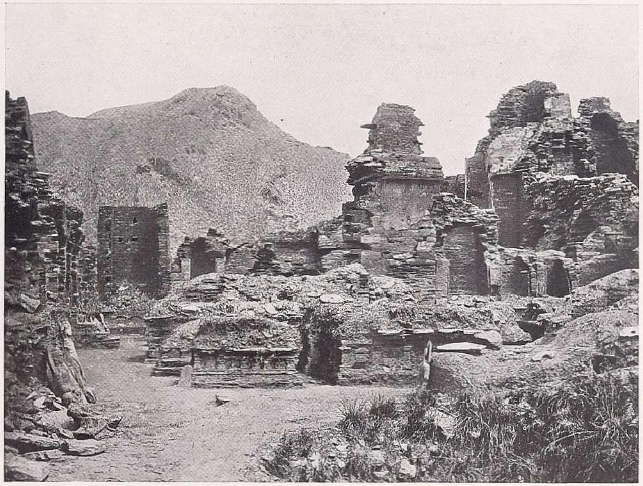


(d) SHAHDARA. JAHANGIR'S TOMB, SOUTHERN SECTION OF WESTERN CAUSEWAY, AFTER CONSERVATION.

PLATE V.

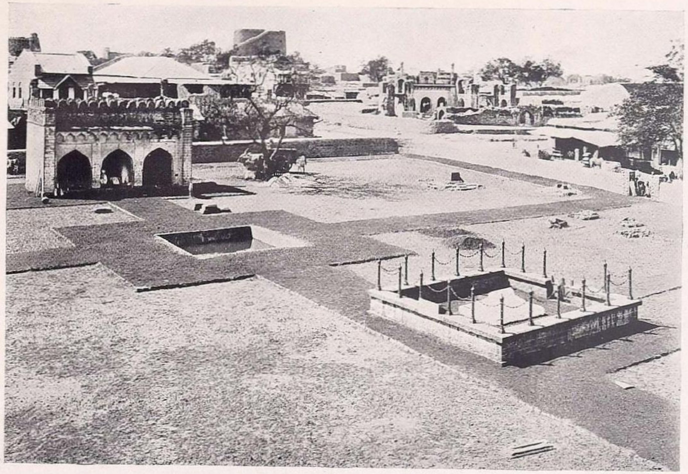
(a) Takht-i-Bahi. Court X, showing chapels, before conservation.

(b) Takht-i-Bahi. Court X, showing chapels, after conservation.

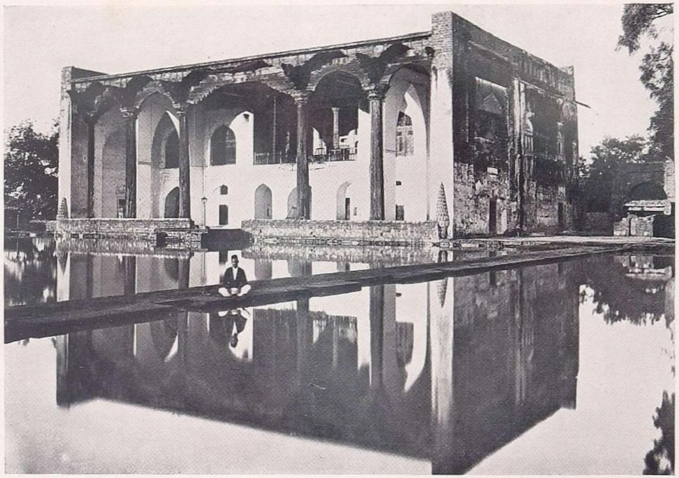


(c) Takht-i-Bahi. Courts V and VI, before conservation.

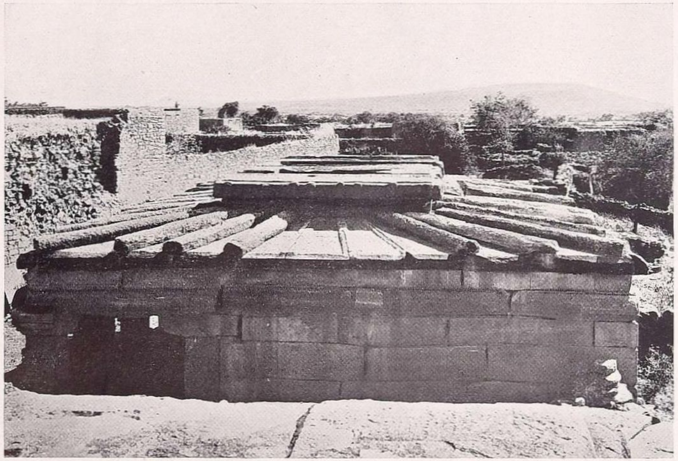
(d) Takht-i-Bahi. Courts V and VI, after conservation.



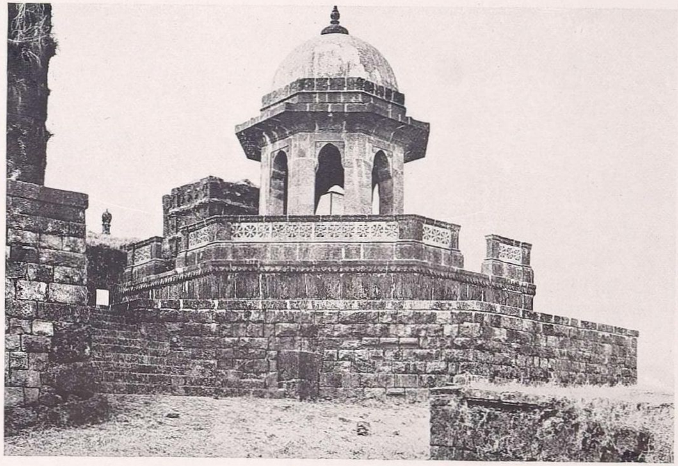
(*a*) Bijapur. Sikandar Adil Shah's Tomb, showing treatment of the enclosed area.



(*b*) Bijapur. Asar Mahal, showing tanks filled with water.

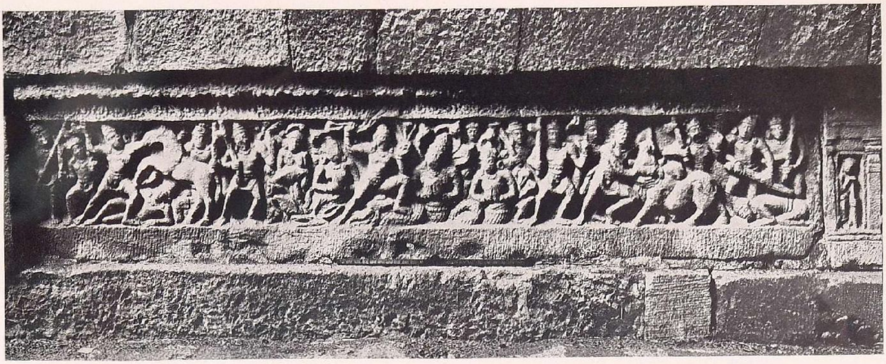


(*c*) Aihole, District Bijapur. Temple No. 6 in the "Kontgudi" group, showing details of roof construction.



(*d*) Rayagad Fort, District Kolaba Maharaja Sivaji's Samadhi, after conservation and erection of a new Chhattri.

Plate VII.



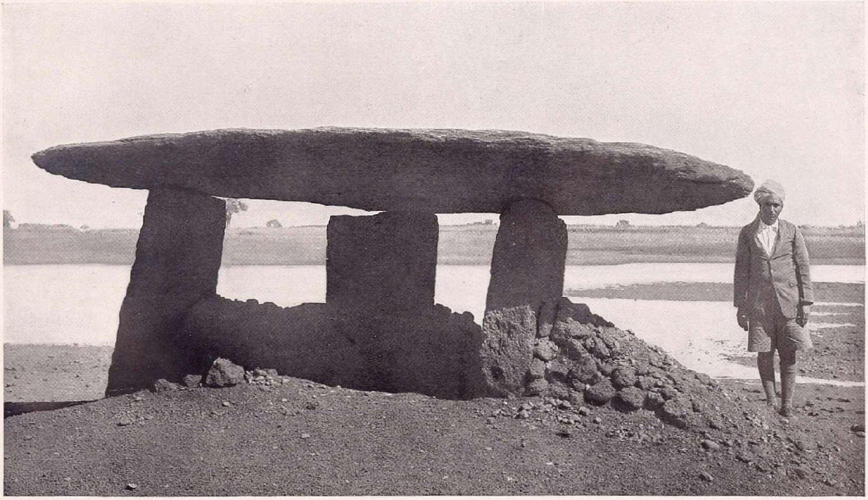
a

b

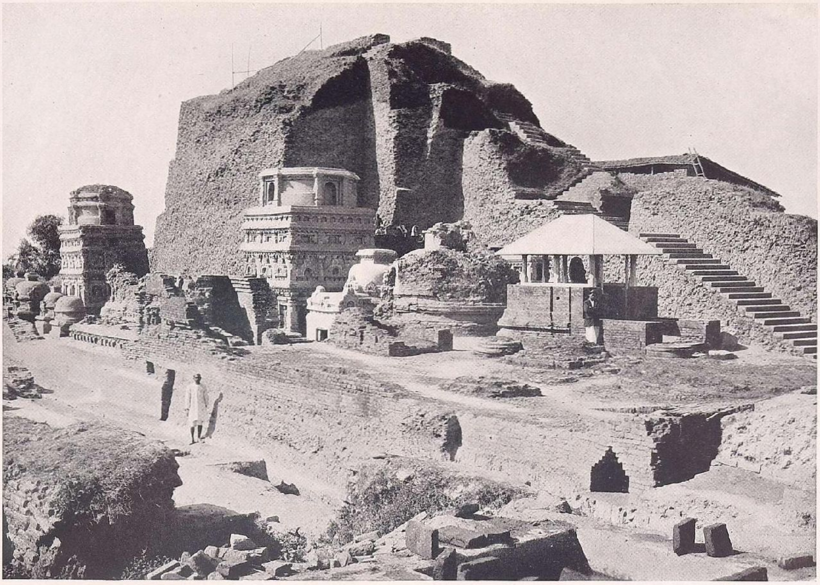
c

(*a*) AND (*b*) BADAMI, DISTRICT BIJAPUR. BAS-RELIEFS UTILIZED ON THE PLINTH OF MODERN GUARD ROOM ON THE TOP OF THE NORTH HILL.
(*c*) BASSEIN FORT, DISTRICT THANA. SCULPTURE DISCOVERED IN THE JESUITS' MONASTERY.

(a) BADAMI, DISTRICT BIJAPUR. SURALI OR SUVALI TEMPLE. MODEL OF A PSEUDO-QUEEN-POST TRUSS IN RELIEF ON WALL.



(b) TILOTA KHAIRI, CROMLECH, FROM WEST.

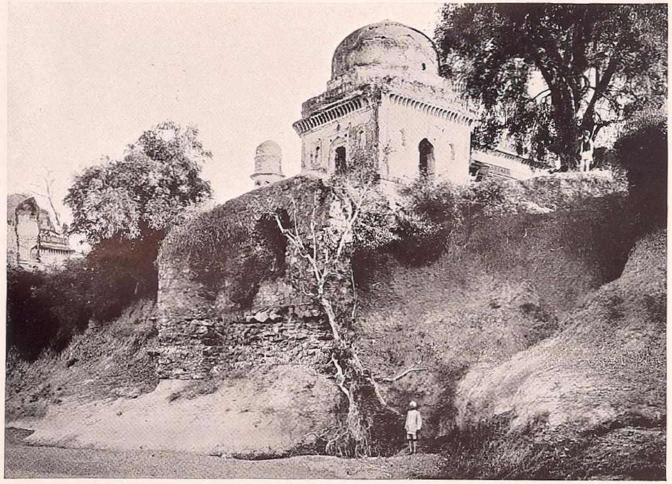


(*a*) NALANDA. STUPA SITE No. 3. GENERAL VIEW FROM NORTH-EAST, DURING CONSERVATION.

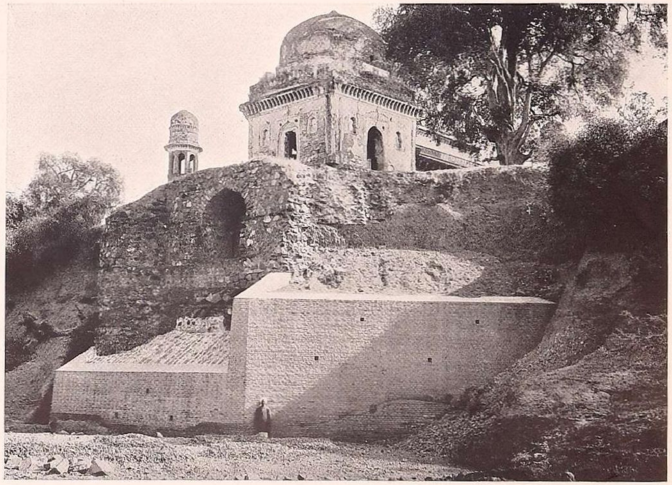
(*b*) NALANDA. STUPA SITE No. 3. GENERAL VIEW FROM NORTH-EAST, AFTER CONSERVATION.

(a) RAJGIR. "NEW FORT," SOUTH GATE, BEFORE CLEARANCE AND REPAIR.

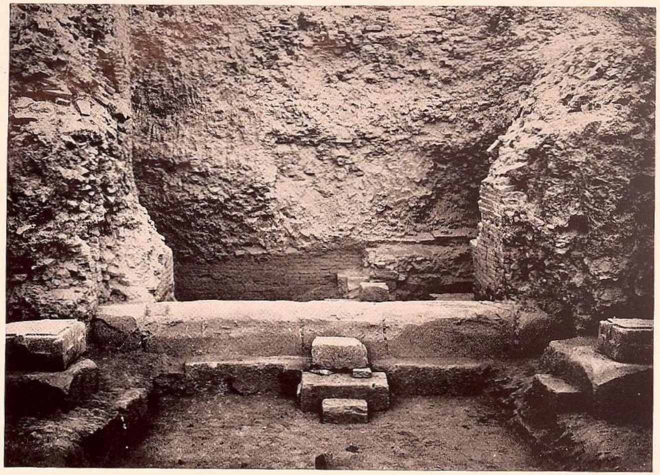
(b) RAJGIR. "NEW FORT," SOUTH GATE, AFTER CLEARANCE AND REPAIR.



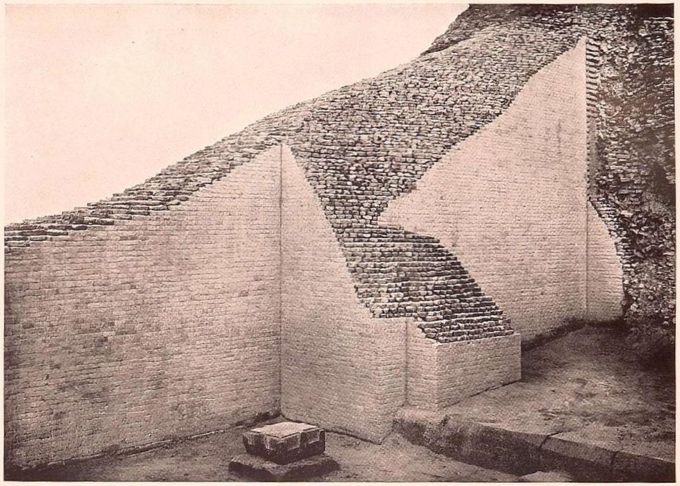
(c) BURHANPUR. SHAH NAWAZ KHAN'S TOMB, UNDERMINED WALL OF CHHATTRI TO NORTH-WEST; FROM RIVER BED.



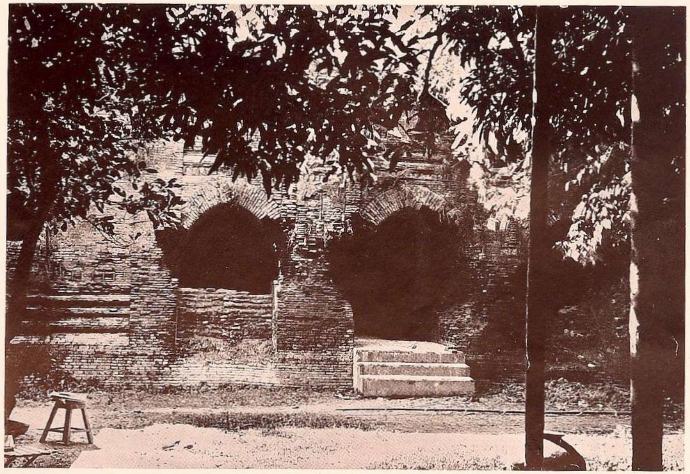
(d) BURHANPUR. SHAH NAWAZ KHAN'S TOMB, NEW REVETMENT WALL BELOW THE NORTH-WEST CHHATTRI; FROM RIVER BED.



(*a*) PAHARPUR, RAJSHAHI. EASTERN ANTE-CHAMBER AND MANDAPA, BEFORE CONSERVATION.

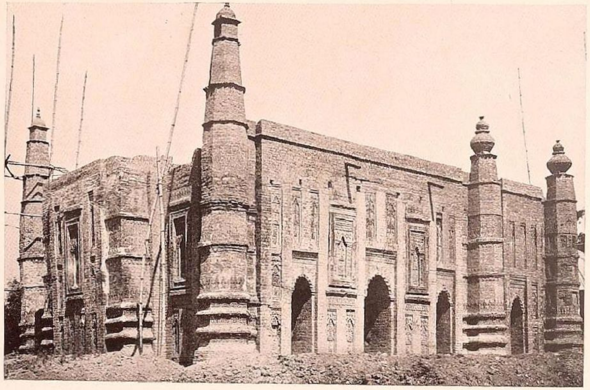


(*b*) PAHARPUR, RAJSHAHI. EASTERN ANTE-CHAMBER AND MANDAPA, AFTER CONSERVATION.

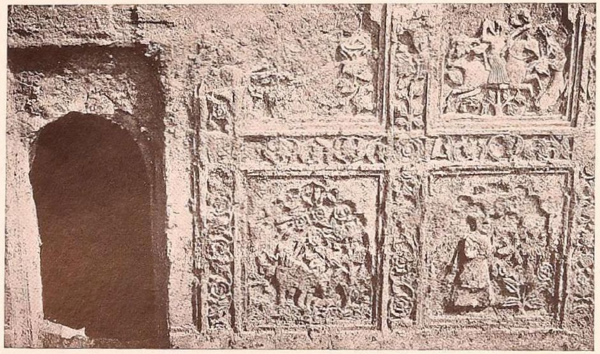


(*c*) RAMPAL, DACCA. FRONT VIEW OF BABA ADAM'S MOSQUE, BEFORE CONSERVATION.

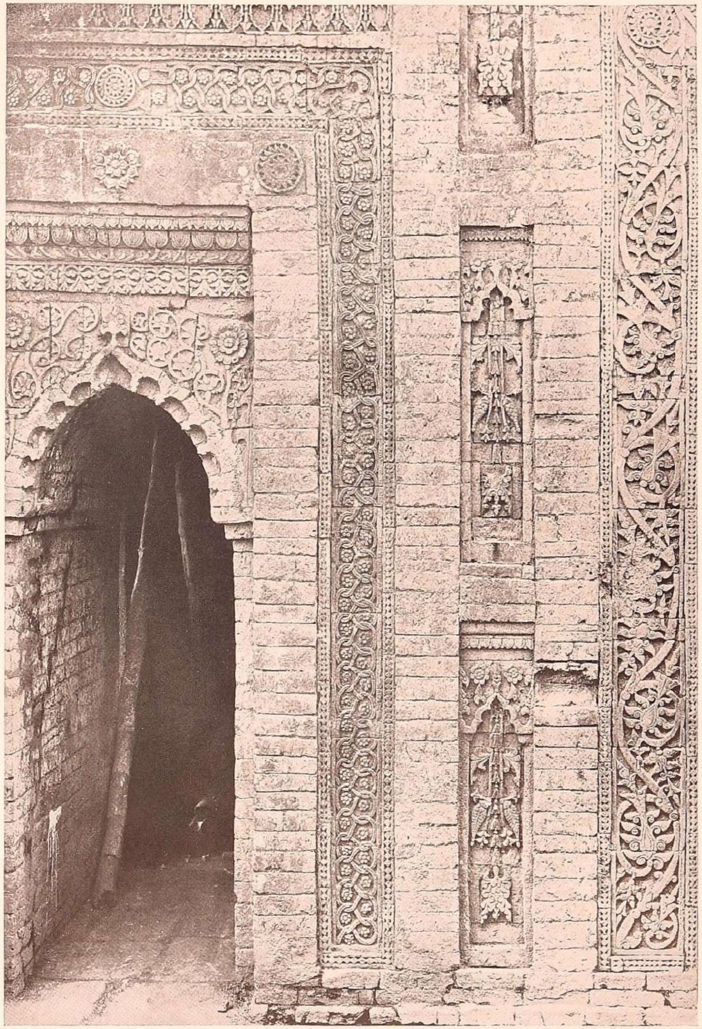
(*d*) RAMPAL, DACCA. FRONT VIEW OF BABA ADAM'S MOSQUE, AFTER CONSERVATION.



(*a*) Sankarpasha, Sylhet. General view of mosque, from south-west.



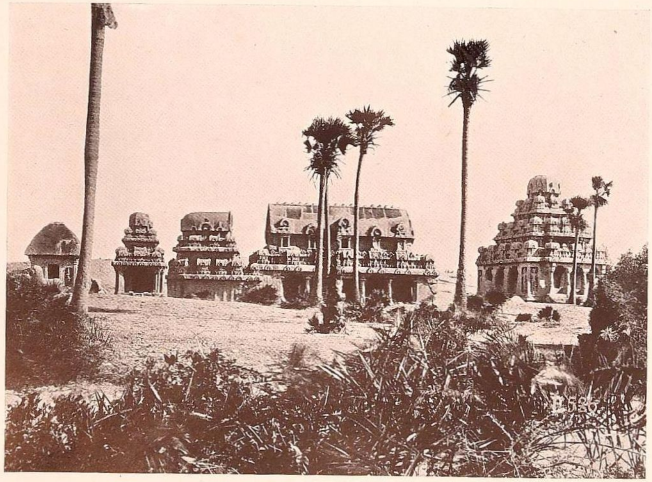
(*b*) Sibsagar, Assam. Plaster ornamentation of Karanghar Palace.



(*c*) Sankarpasha, Sylhet. Details of moulded brickwork in front wall of mosque.

(*a*) Seven Pagodas. The Five Rathas, from south, before repairs.

(*b*) Seven Pagodas. The Five Rathas, from south, after repairs.



(*c*) Seven Pagodas. The Five Rathas, from west, before repairs.

(*d*) Seven Pagodas. The Five Rathas, from west, after repairs.

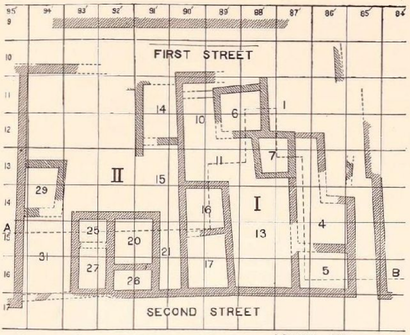
Plate XIV.

(a) PWASAW, PAGAN. DHAMMAYAZIKA PAGODA, AFTER REPAIRS.

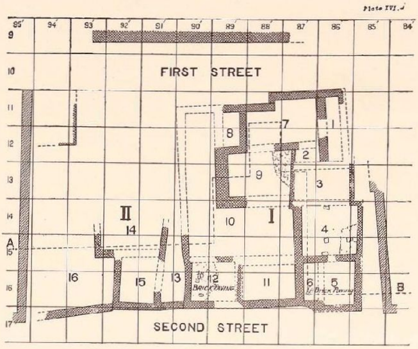
(b) MINNANTHU, PAGAN. THAMBULA TEMPLE, AFTER REPAIRS.

(c) MINNANTHU, PAGAN. NANDAMANNA TEMPLE, AFTER REPAIRS.

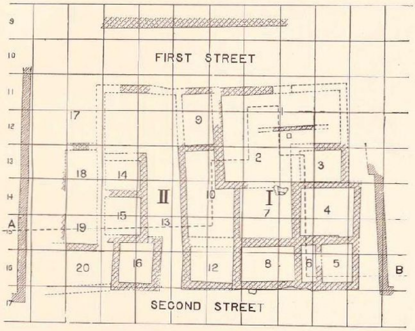
EXCAVATIONS AT TAXILA.



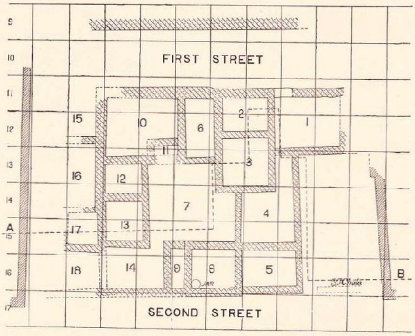
(*a*) PLAN OF FIRST AND SECOND STRATA.



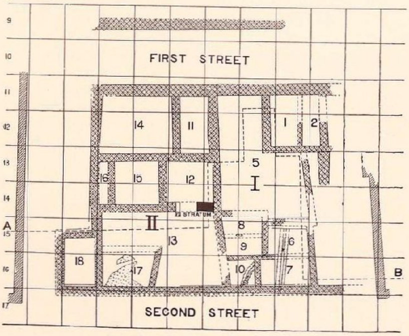
(*b*) PLAN OF THIRD STRATUM



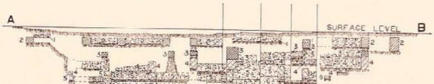
(*c*) PLAN OF FOURTH STRATUM



(*d*) PLAN OF FIFTH STRATUM

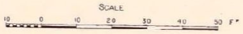


(*e*) PLAN OF SIXTH STRATUM



(*f*) SECTION ON A. B. (LOOKING NORTH).

SIRKAP. BLOCK 2′
PLANS & SECTION
OF
SIX STRATA



(a) SIRKAP. BLOCKS H′, G′ & F′. GENERAL VIEW LOOKING NORTH.

(b) SIRKAP. BLOCKS D′ AND E′. GENERAL VIEW FROM SOUTH-WEST

(*a*) SIRKAP. BLOCK 2′. VIEW OF DEEP DIGGING FROM NORTH.

(*b*) SIRKAP. BLOCK 2′. VIEW OF DEEP DIGGING INSIDE CITY WALL, LOOKING EAST.

1

2 3 4

5

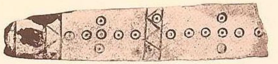
MISCELLANEOUS ANTIQUITIES FROM SIRKAP.

1

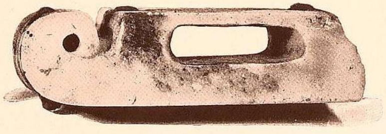
2

7

3

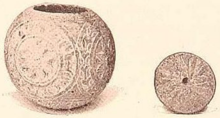


8



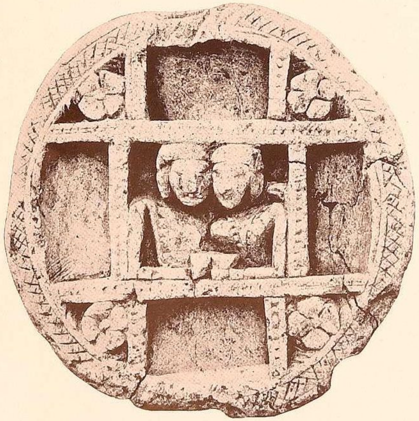
4

5



9

11

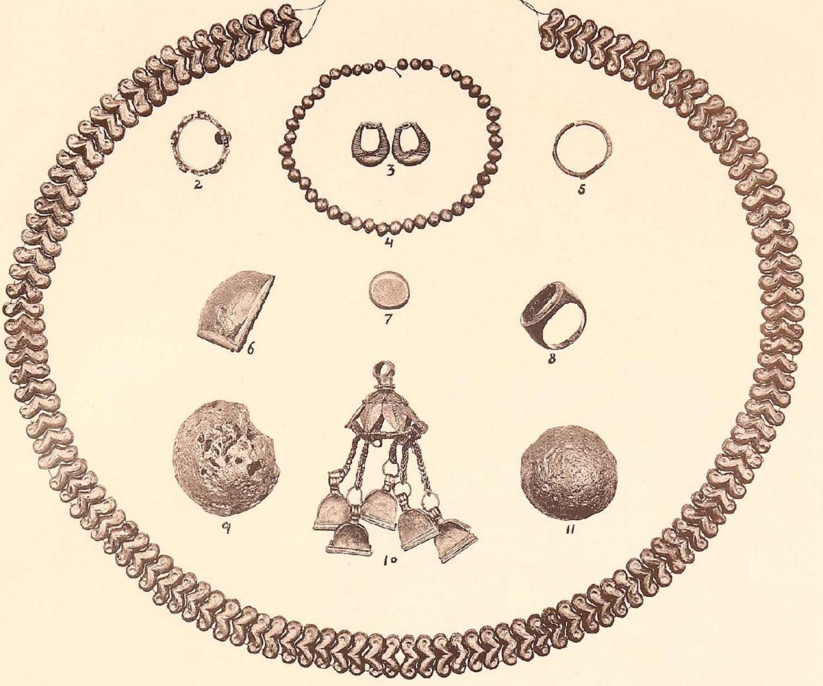


6

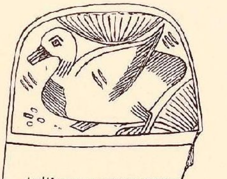
10

12

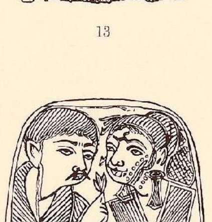
(1-12) Miscellaneous antiquities from Sirkap.

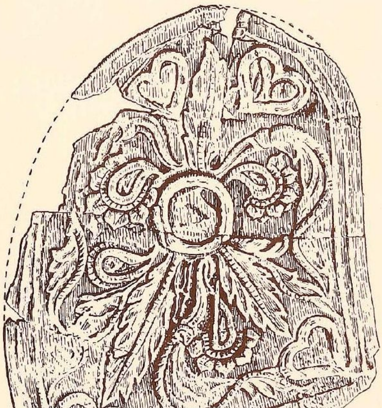


1



13





12 14 15

MISCELLANEOUS ANTIQUITIES FROM SIRKAP.

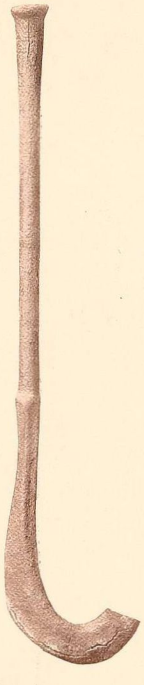
1

2

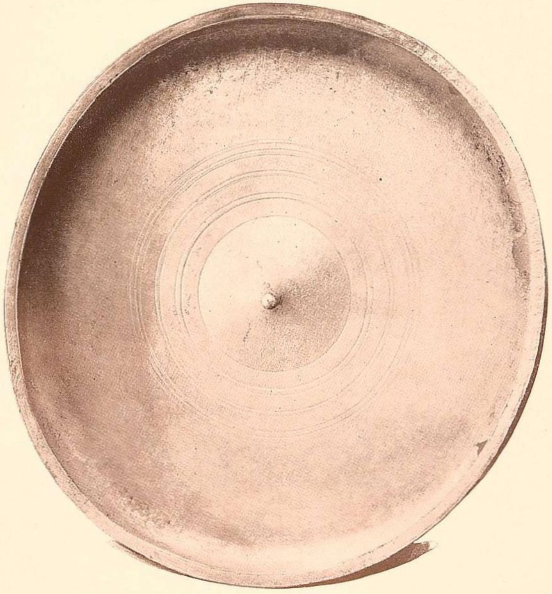
3

4

5



5*a*



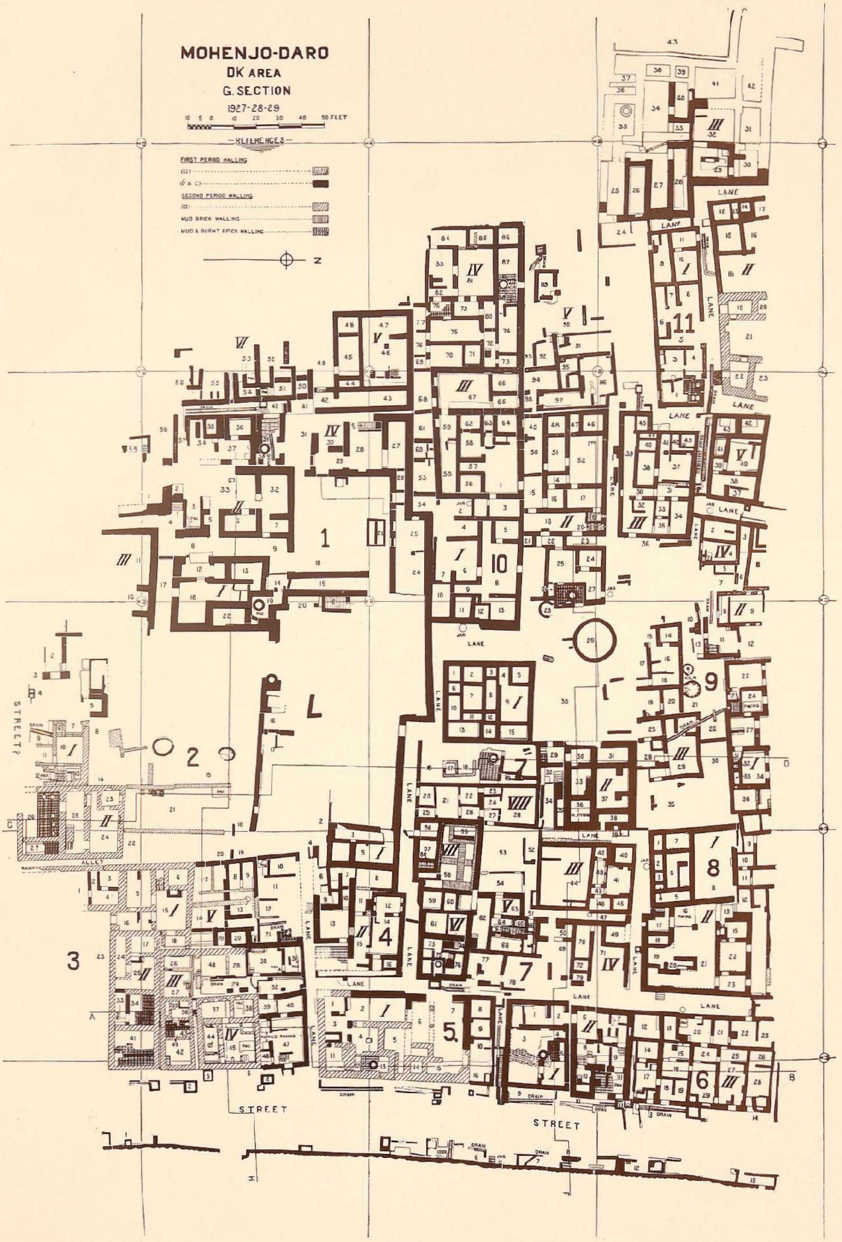
6

7

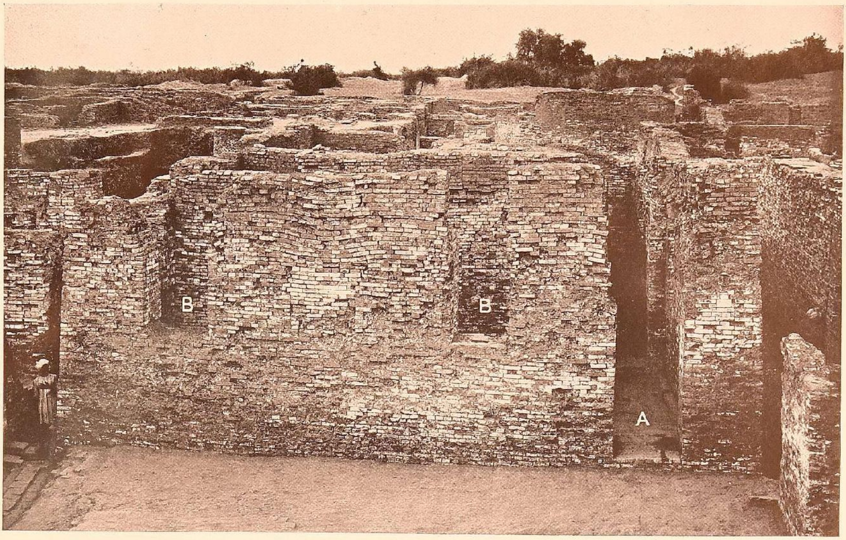
8

(1-8) Miscellaneous antiquities from Sirkap.

Plate XXII.



PLAN OF DK. AREA, G. SECTION, SHOWING BUILDINGS OF THE LATE PERIOD.

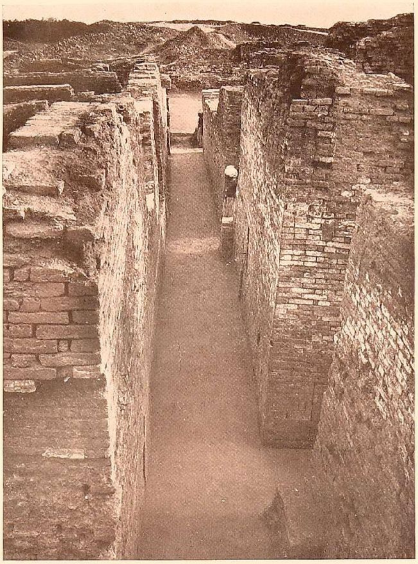


(a) A large building of Intermediate Period I showing on the right an original doorway (A) and to left two doorways (B) of later date.

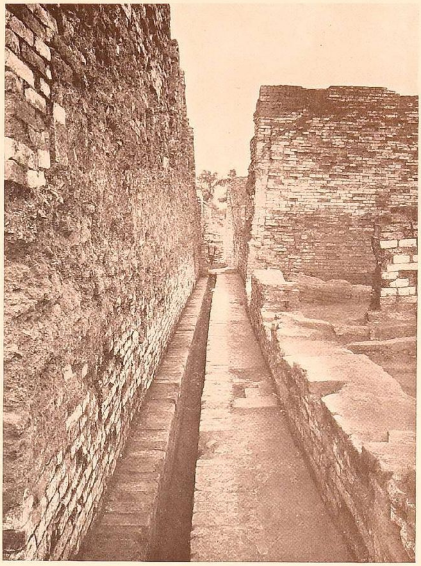
(b) General view of excavations (Dk. Area, G. Section) showing water chutes, well, and mud-brick filling of later buildings on the left.

THE LINING OF A WELL SHOWING THE MASONRY OF THREE SEPARATE PERIODS. BEYOND ARE SEEN BUILDINGS OF THE POTTERS' QUARTER HIGH UP ON DEBRIS OF EARLIER OCCUPATIONS.

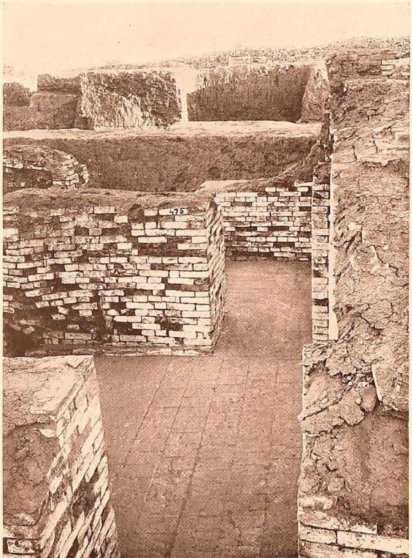
IN THE FOREGROUND ARE LANES AND BUILDINGS OF THE INTERMEDIATE PERIOD I SURMOUNTED IN PLACES BY LATE MASONRY. BEYOND ARE SEEN WELL PRESERVED BUILDINGS OF THE LATE PERIOD.



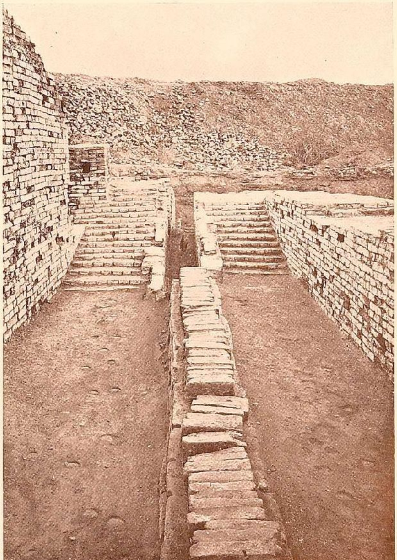
(*a*) LANE OF THE INTERMEDIATE PERIOD WITH INWARD SLOPED WALLS OF HOUSES.



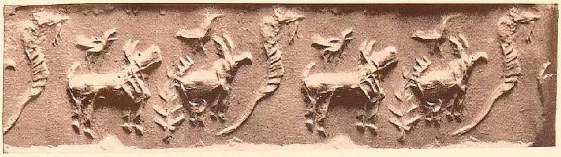
(*b*) LANE OF THE INTERMEDIATE PERIOD WITH WELL-CONSTRUCTED DRAIN.



(*c*) A WELL-PAVED ROOM OF THE INTERMEDIATE PERIOD I WITH THE REMAINS OF A BUILDING OF THE LATE PERIOD IN THE REAR.



(*d*) A DOUBLE STAIRWAY OF THE INTERMEDIATE PERIOD WITH A BRICK DRAIN OF LATER DATE IN FOREGROUND.

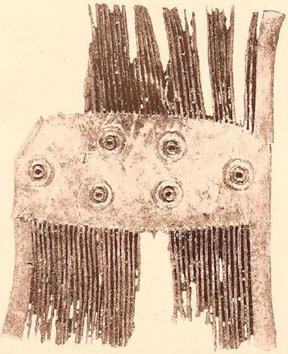


a

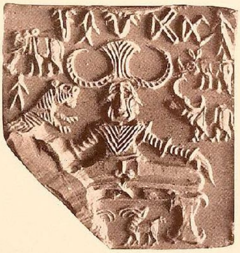
b

c

d



e



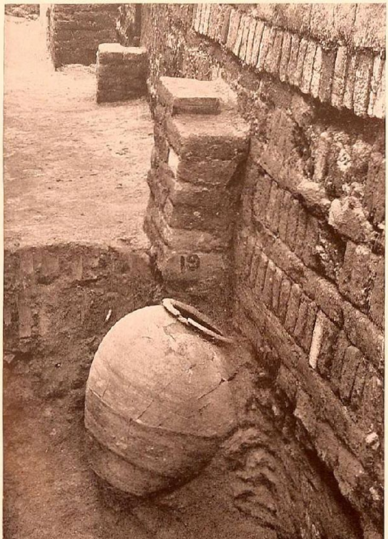
f

g

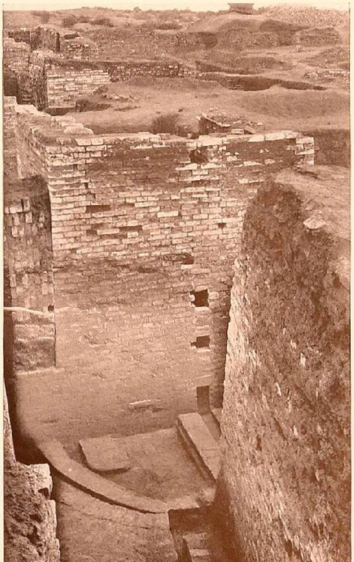
(*a-g*) SEALS AND OTHER OBJECTS.

a

b



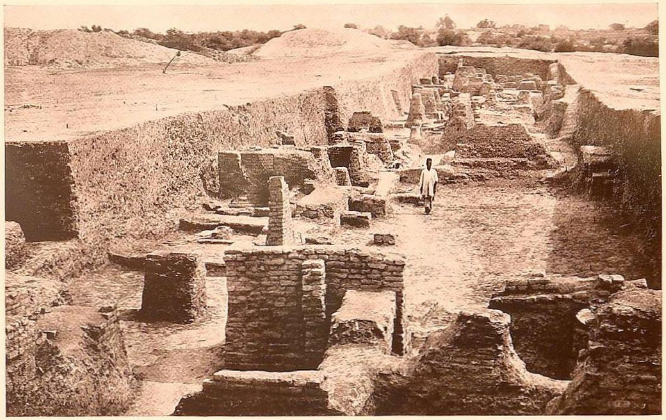
c



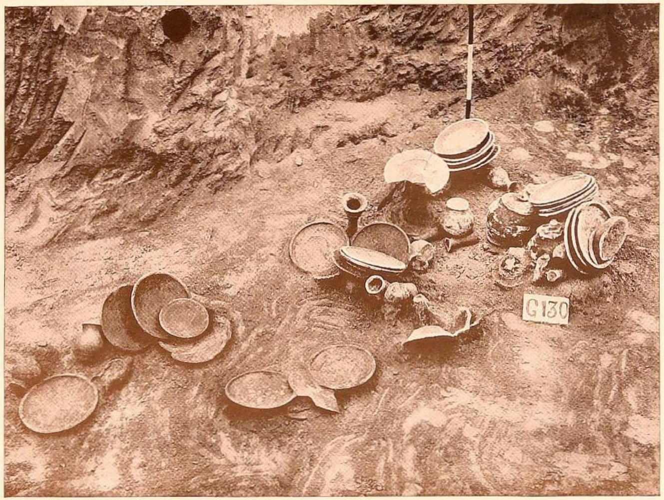
d

(*a-b*) COPPER ANTIQUITIES (*c-d*) DETAILS OF BUILDINGS.

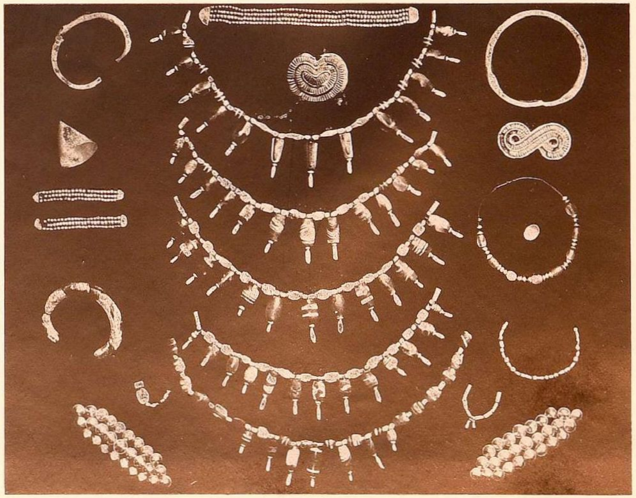
(*a*) Harappa. Mound F, trench IV. Northern section showing three circular structures, from south-east.



(*b*) Harappa. Mound F, trench V. General view after excavation, from west.

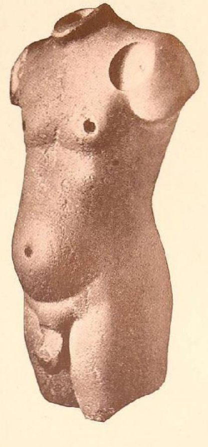


(*c*) Harappa. Site G, trench II. Pottery (G 130) *in situ*, from south-east.

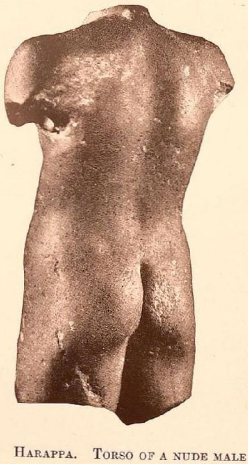


(*d*) Harappa. Mound F. Jewellery from trench IV.

(*a*) HARAPPA. TORSO OF A NUDE MALE FIGURE IN RED SANDSTONE. FRONT VIEW.



(*b*) HARAPPA. TORSO OF A NUDE MALE FIGURE IN RED SANDSTONE. SIDE VIEW.

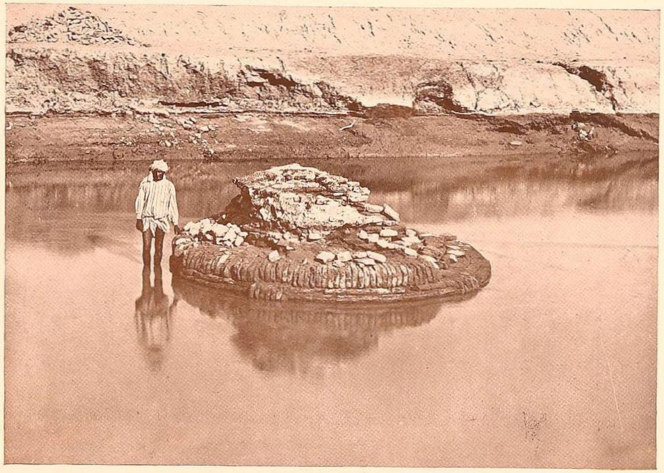


(*c*) HARAPPA. TORSO OF A NUDE MALE FIGURE IN RED SANDSTONE. BACK VIEW

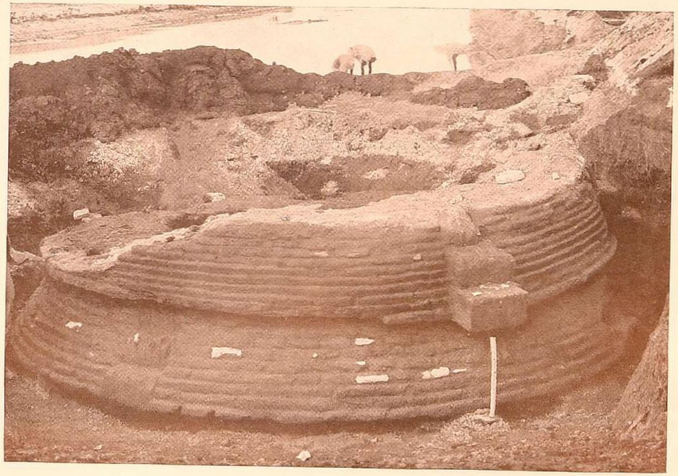
(*d*) HARAPPA. TORSO OF A NUDE MALE FIGURE IN RED SANDSTONE. SIDE VIEW.

(*a*) HARAPPA. MOUND F, TRENCH V. WELL, AND OVAL JARS *in situ* FROM NORTH-WEST.

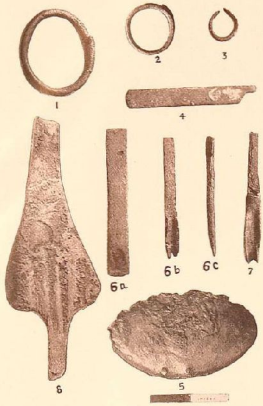
(*b*) HARAPPA. SEALS AND SEALINGS.



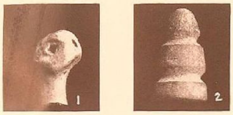
(*c*) DALLIN. CIRCULAR STRUCTURE B IN PAKPATAN CANAL.



(*d*) DALLIN. CIRCULAR STRUCTURE A IN PAKPATAN CANAL.

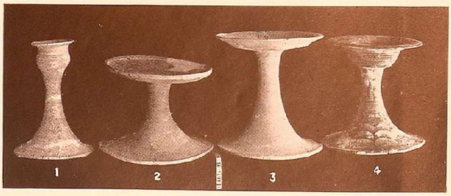


(*a*) COPPER OBJECTS.

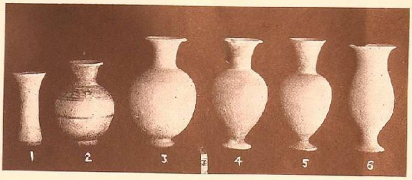


(*b*) SNAKE HEAD AND CONE.

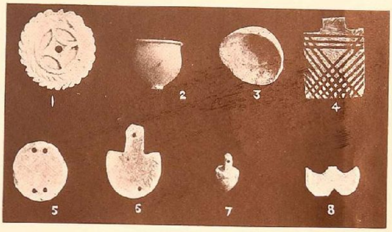
(*c*) COPPER DAGGER.



(*d*) CENSER AND DISHES.

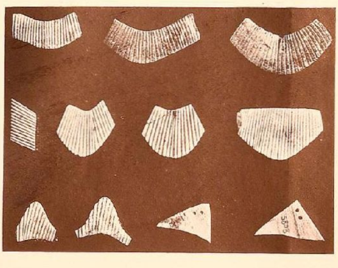


(*e*) EARTHENWARE VASES.

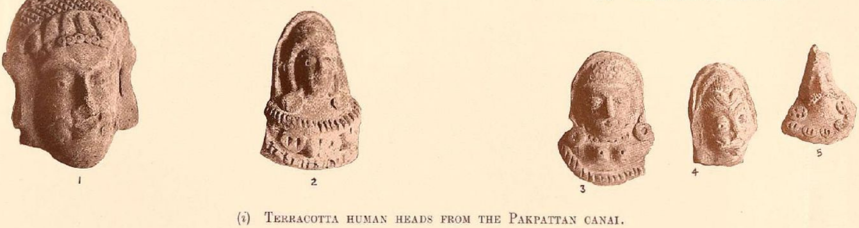


(*f*) ORNAMENTAL OBJECTS OF FAIENCE AND STEATITE.

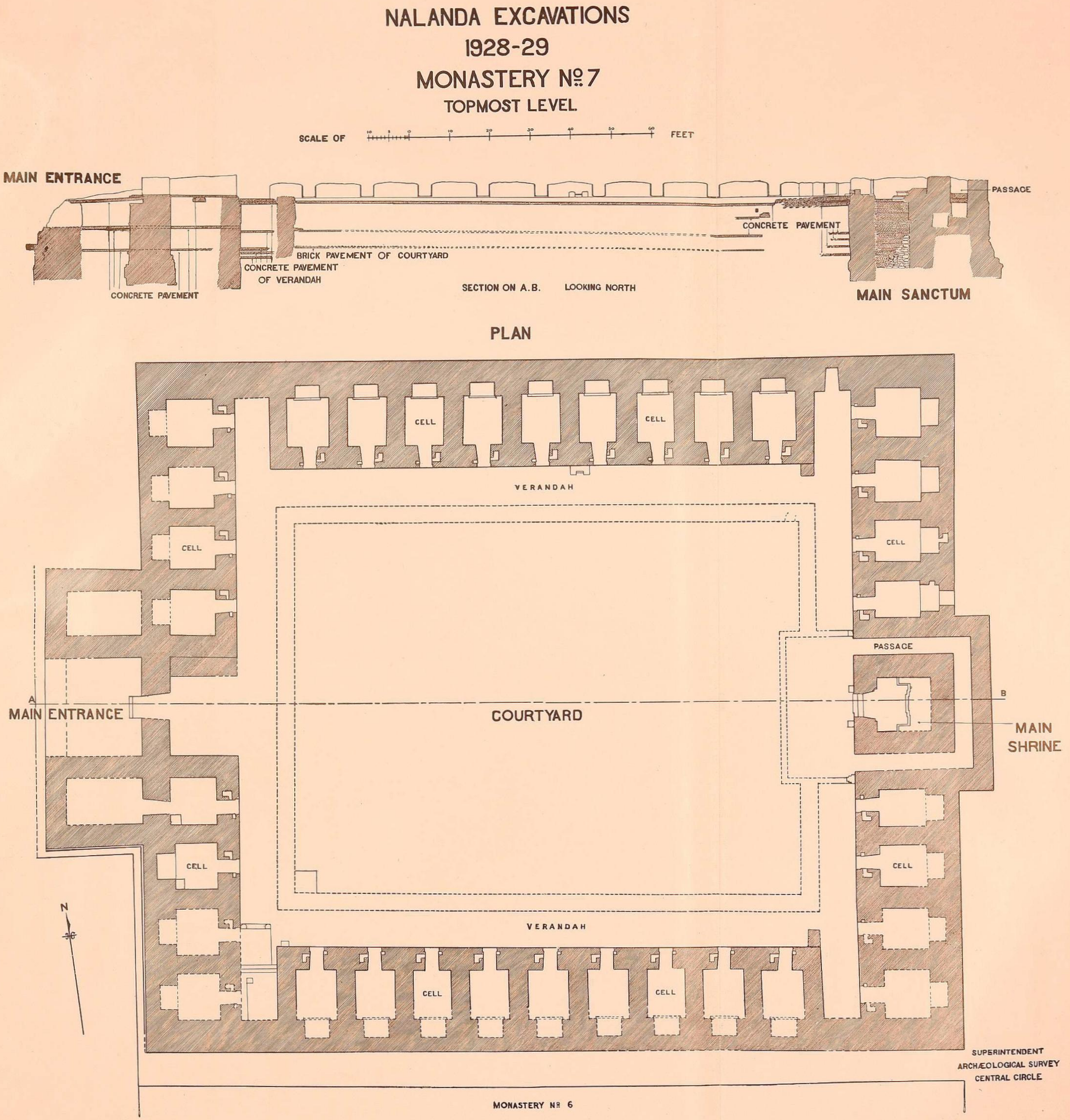
(*g*) PAINTED PLATTERS AND DISH ON STAND.



(*h*) RIBBED FAIENCE OBJECTS.

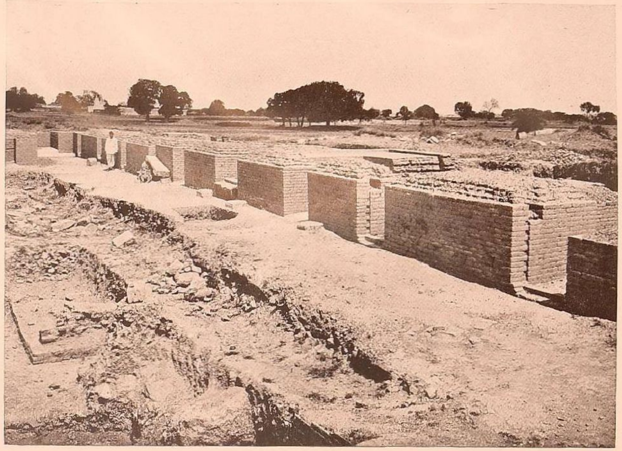


(*i*) TERRACOTTA HUMAN HEADS FROM THE PAKPATTAN CANAL.



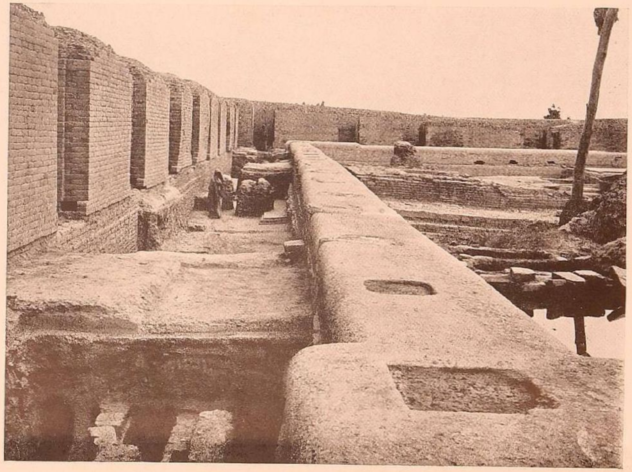
PLAN OF MONASTERY NO. 7. TOPMOST LEVEL.

(*a*) Nalanda. Monastery 7. Topmost stratum, east verandah and cells as excavated and before repair.



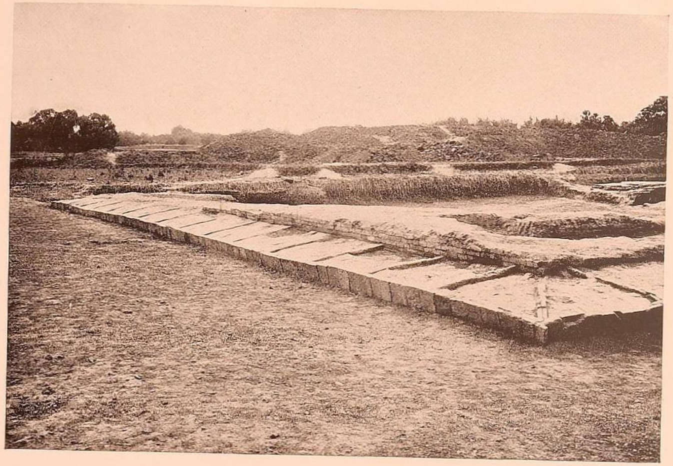
(*b*) Nalanda. Monastery 7. Topmost stratum, east side cells after repair.

(*c*) Nalanda. Monastery 6. North side verandah parapet and earlier structures as excavated and before repair.

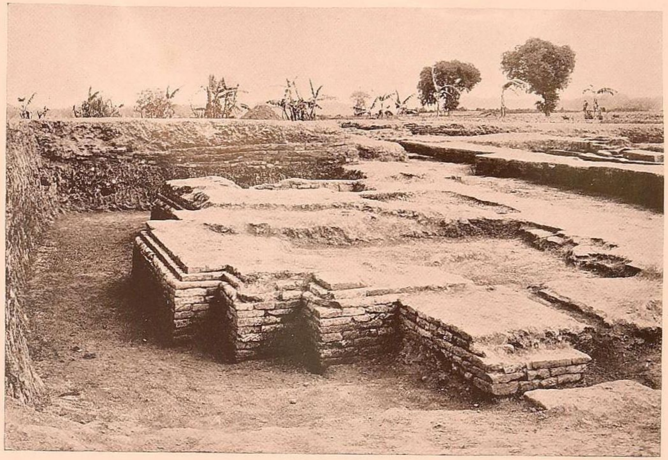


(*d*) Nalanda. Monastery 6. North side verandah parapet and earlier structures after repair.

Plate XXXV.

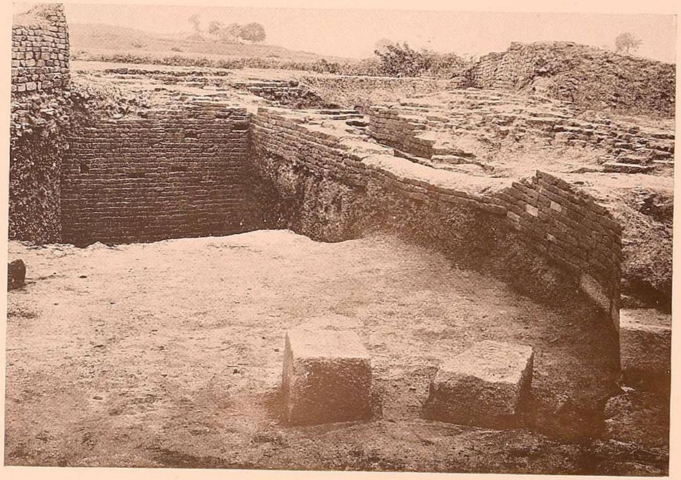


(a) MAHASTHAN, DISTRICT BOGRA. BAIRAGI BHITA. VIEW OF BRICK-ON-EDGE PLATFORM.



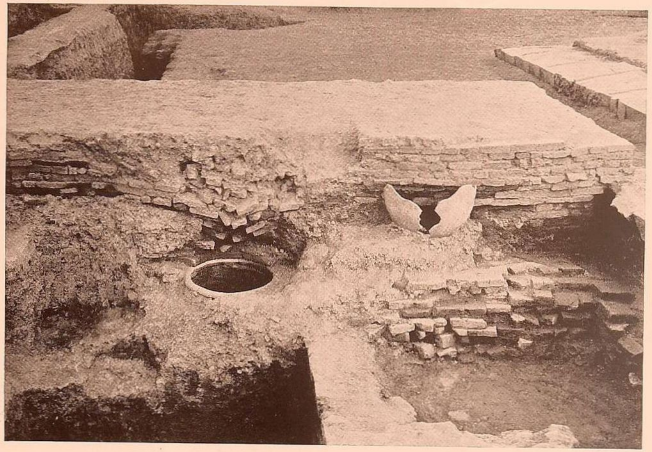
(b) MAHASTHAN, DISTRICT BOGRA. BAIRAGI BHITA. VIEW OF NORTH-WEST CORNER OF EARLY PALA TEMPLE.

(c) MAHASTHAN, DISTRICT BOGRA. MUNIR GHON. CITY WALL, BEFORE EXCAVATION.

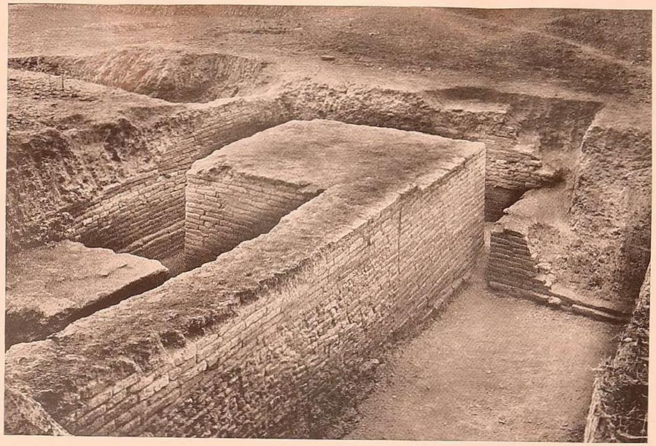


(d) MAHASTHAN, DISTRICT BOGRA. MUNIR GHON. CITY WALL WITH OUTER BASTION, AFTER EXCAVATION.

PLATE XXXVI

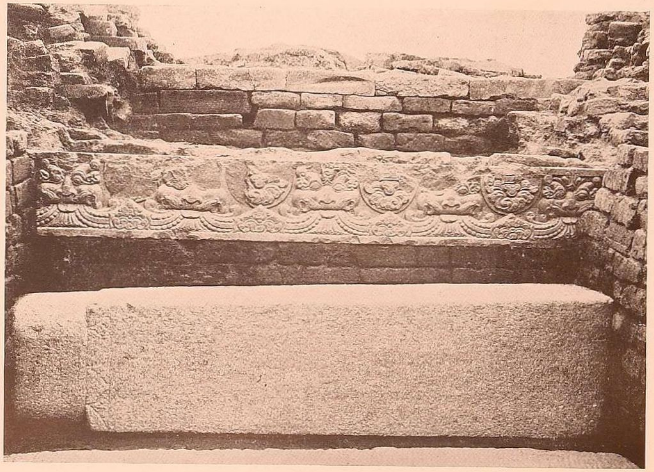


(*a*) Mahasthan, District Bogra. Bairagi Bhita. General view showing different levels and earthen soak-jar connected with underground stone drain.

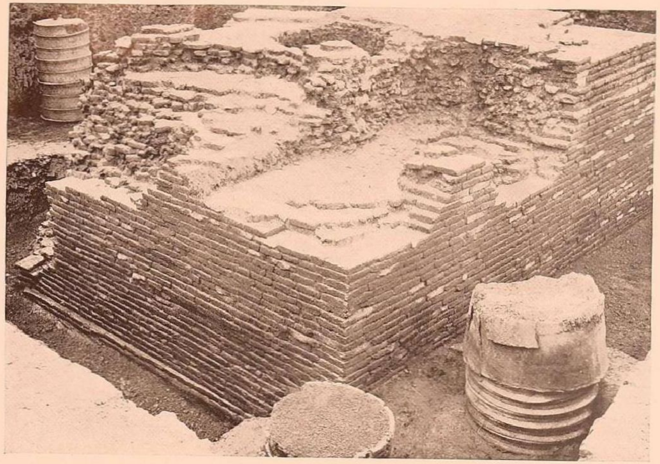


(*b*) Mahasthan, District Bogra. Bairagi Bhita. Square platform in north-west corner.

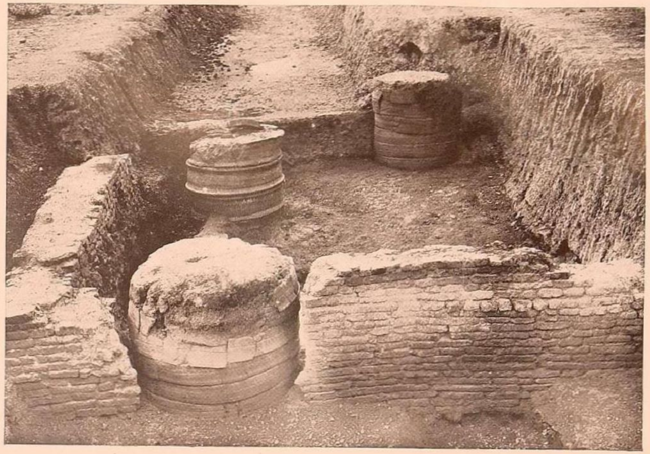
(*c*) Mahasthan, District Bogra. Temple with stone steps in southern trench.



(*d*) Mahasthan, District Bogra. Detail of a pillar with Kirttimukhas in southern trench.



(*a*) MAHASTHAN, DISTRICT BOGRA. SQUARE PLATFORM IN SOUTHERN TRENCH.

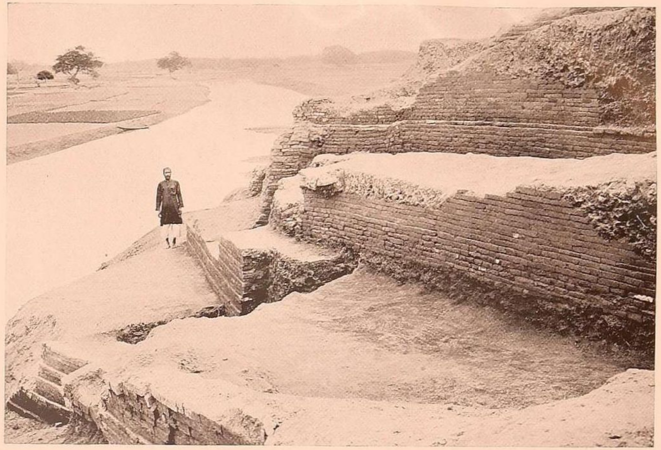


(*b*) MAHASTHAN, DISTRICT BOGRA. RING WELLS IN SOUTHERN TRENCH.

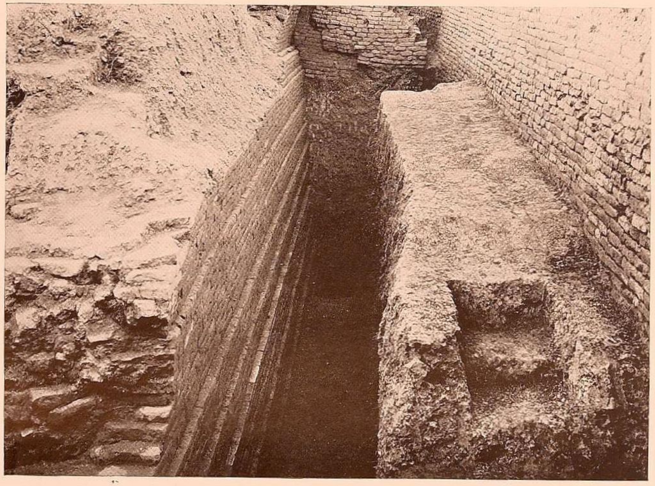
(*c*) MAHASTHAN, DISTRICT BOGRA. GENERAL VIEW OF GOBINDA BHITA, FROM SOUTH-WEST, BEFORE EXCAVATION.

(*d*) MAHASTHAN, DISTRICT BOGRA. GENERAL VIEW OF GOBINDA BHITA, FROM SOUTH-WEST, AFTER EXCAVATION.

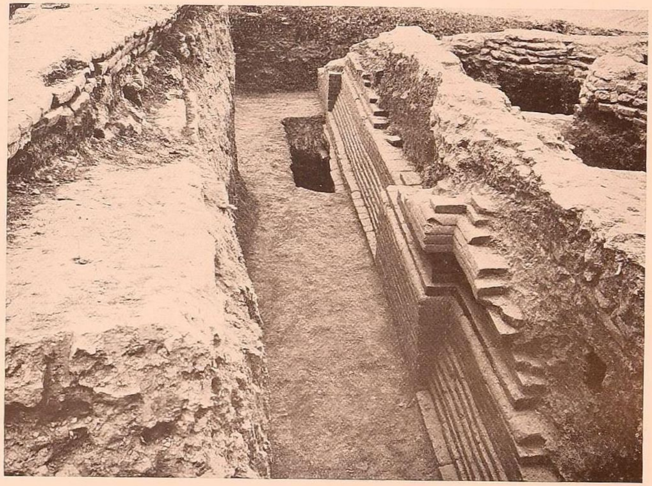
(*a*) Mahasthan, District Bogra. General view of Gobinda Bhita, from north-east.



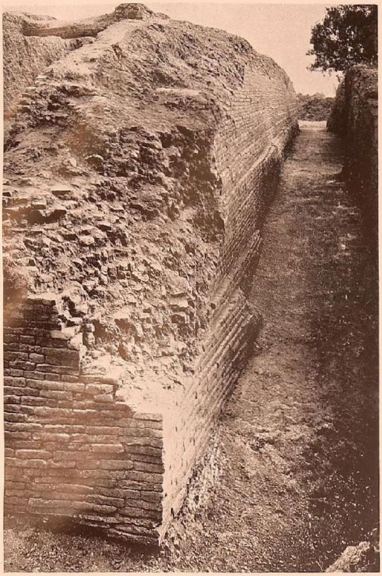
(*b*) Mahasthan, District Bogra. Closer view of Gobinda Bhita, from north showing river bend.



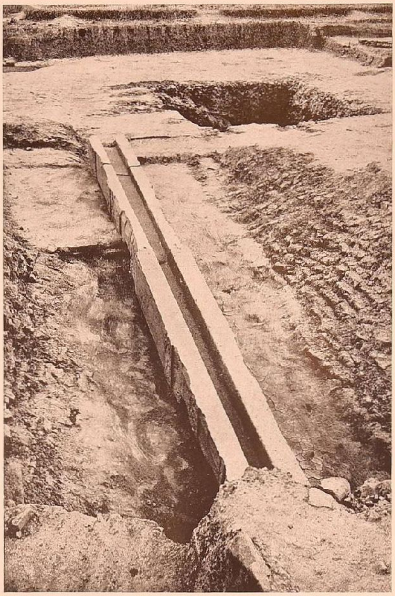
(*c*) Mahasthan, District Bogra. Gobinda Bhita. Wall of the earlier temple showing offsets in the foundation.



(*d*) Mahasthan, District Bogra. Gobinda Bhita. West basement wall of eastern temple.



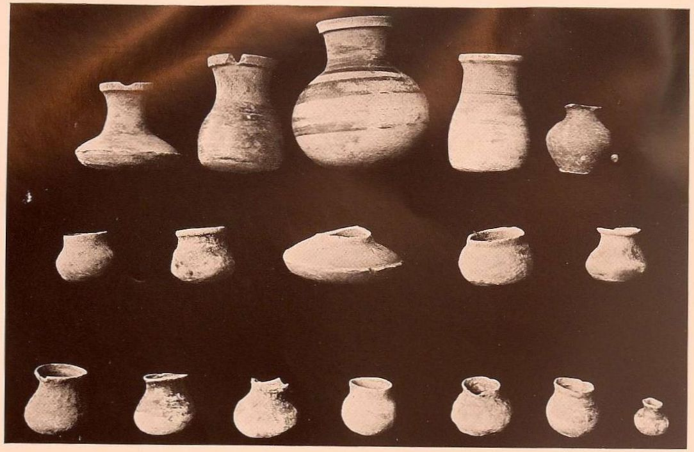
(a) MAHASTHAN, DISTRICT BOGRA. GOBINDA BHITA. OUTER ENCLOSURE WALL FROM NORTH-WEST.



(b) MAHASTHAN, DISTRICT BOGRA. BAIRAGI BHITA. VIEW OF STONE DRAIN IN EARLY TEMPLE.

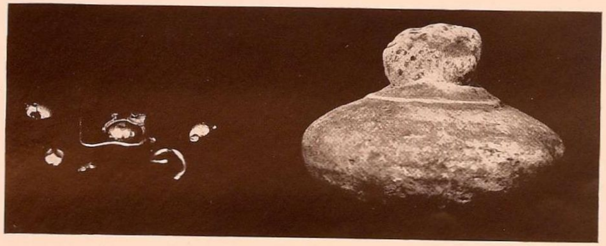
(c) MAHASTHAN, DISTRICT BOGRA. GOBINDA BHITA. GENERAL VIEW OF INTERIOR OF EASTERN TEMPLE.

(d) MAHASTHAN, DISTRICT BOGRA. BAIRAGI BHITA. DETAILS OF CARVING ON A STONE PILLAR.



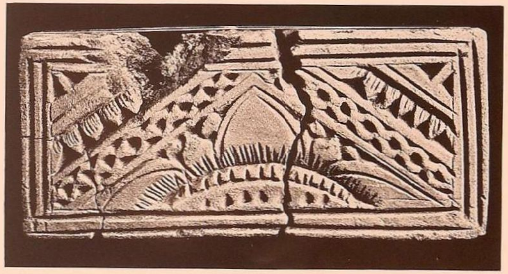
(*a*) Pottery.

(*b*) Terracotta toys.



(*c*) Gold ornaments found in a tiny jar.

(*d*) Terracotta toys.



(*e*) Carved brick.

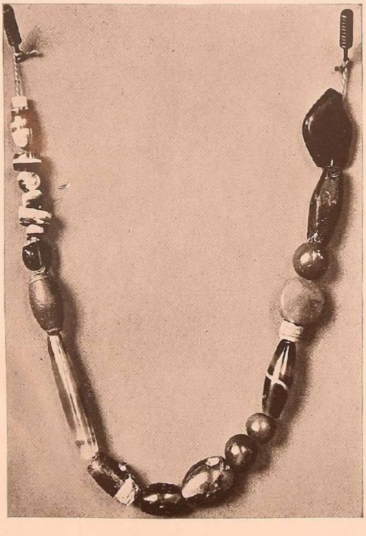
(*f*) Fragmentary carved bricks.

Plate XLI.

(a) TERRACOTTA HEAD OF TIGER.

(d) TERRACOTTA PLAQUE.

(b) POTSHERD WITH HUNTING SCENE.

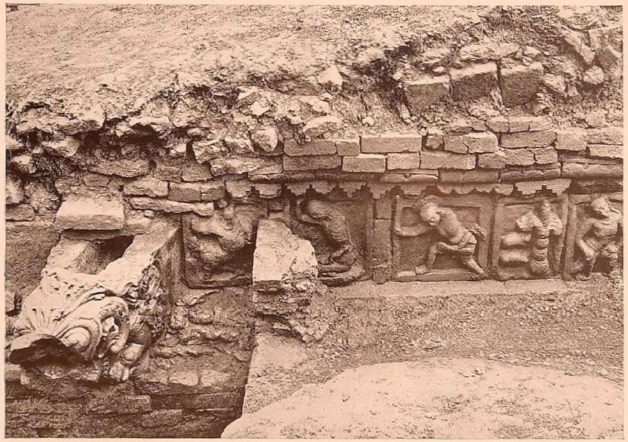


(c) BEADS.

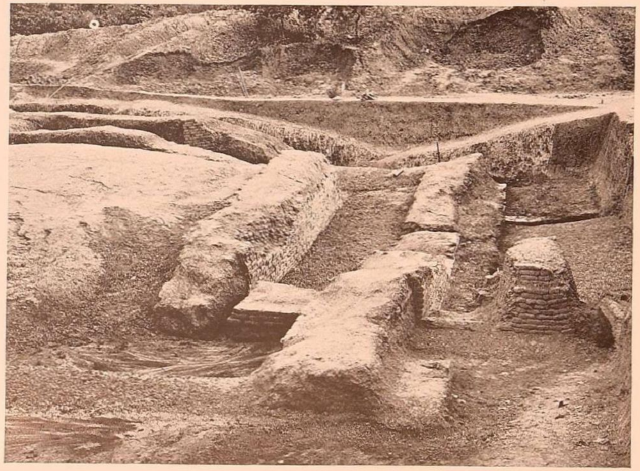
(e) PEDESTAL OF LOST CHANDI IMAGE.

(*a*) Paharpur, District Rajshahi. General view of rooms on east.

(*b*) Paharpur, District Rajshahi. Pedestal for image in room No. 2.

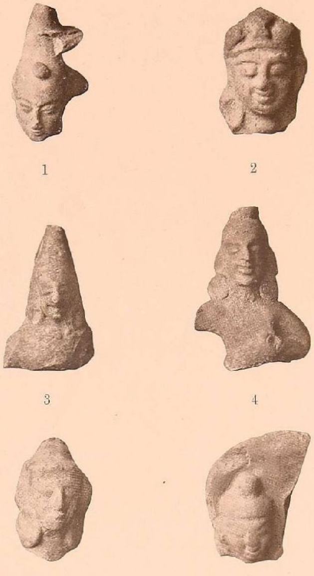


(*c*) Paharpur, District Rajshahi. Wall of miniature temple on west showing gargoyle and plaques.

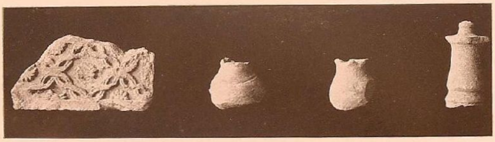


(*d*) Rangamati, District Murshidabad. General view of excavations from north-east.

(a)

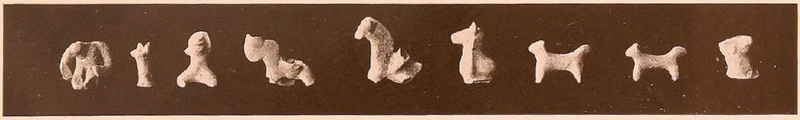


1 2 3 4 5 (b) 6

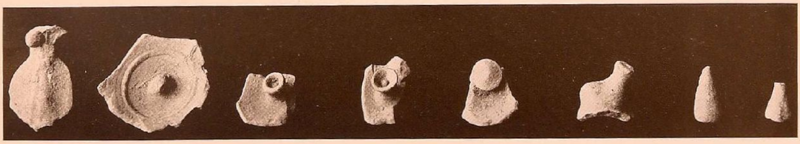


(c)

(f)

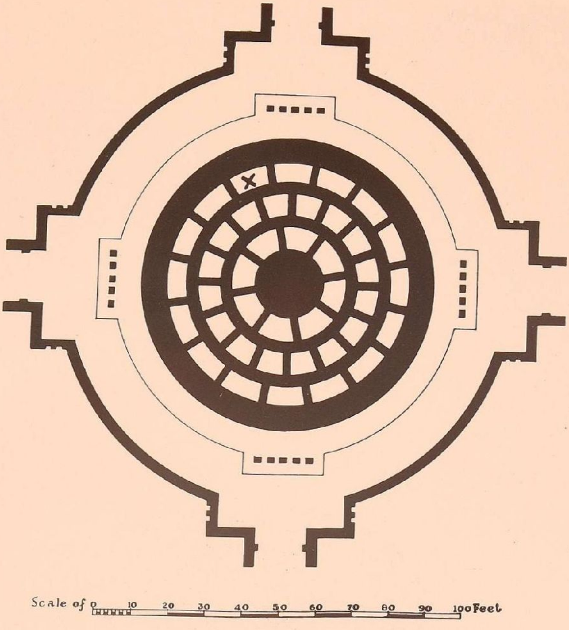


(d)

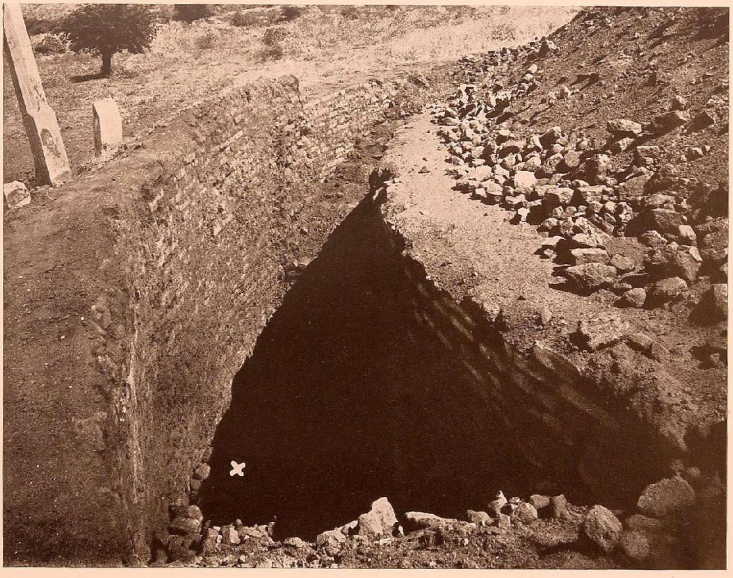


(e)

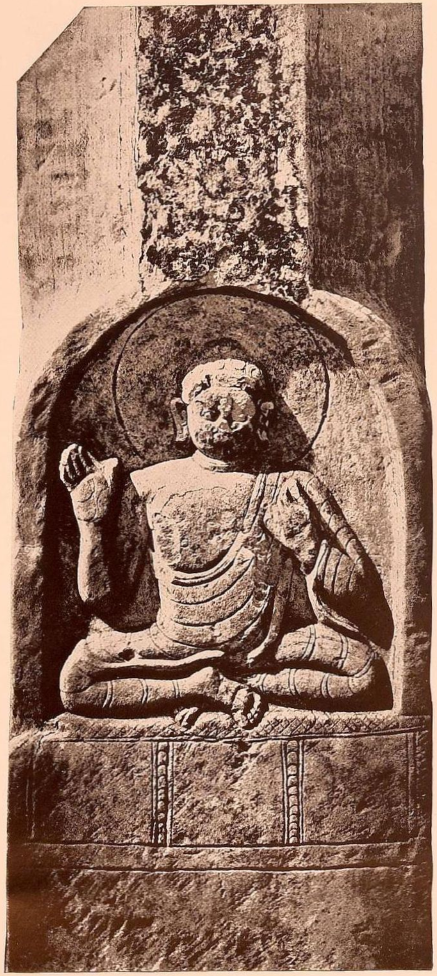
(a) STONE BEADS FROM MOUND AT CHUNSAR, MURSHIDABAD. (b) 1—6 TERRACOTTA HEADS FROM RANGAMATI. (c—e) TERRACOTTA OBJECTS FROM RANGAMATI. (f) STUCCO FRAGMENT WITH FIGURE OF A DHYANI-BUDDHA.



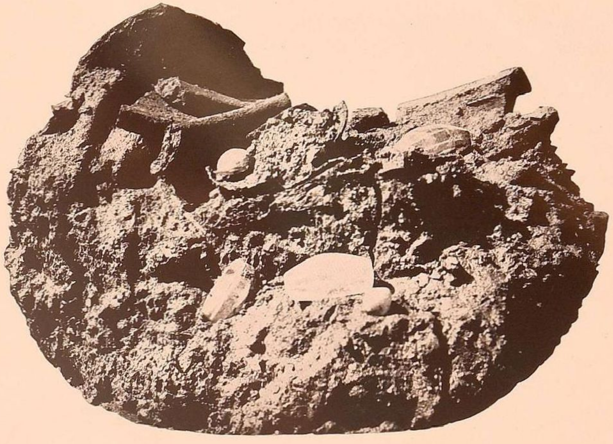
(*a*) PLAN OF THE GREAT STUPA. (FINDSPOT OF RELICS MARKED BY A CROSS.)



(*b*) OUTER WALL OF THE GREAT STUPA. (FINDSPOT OF RELICS MARKED BY A CROSS.)



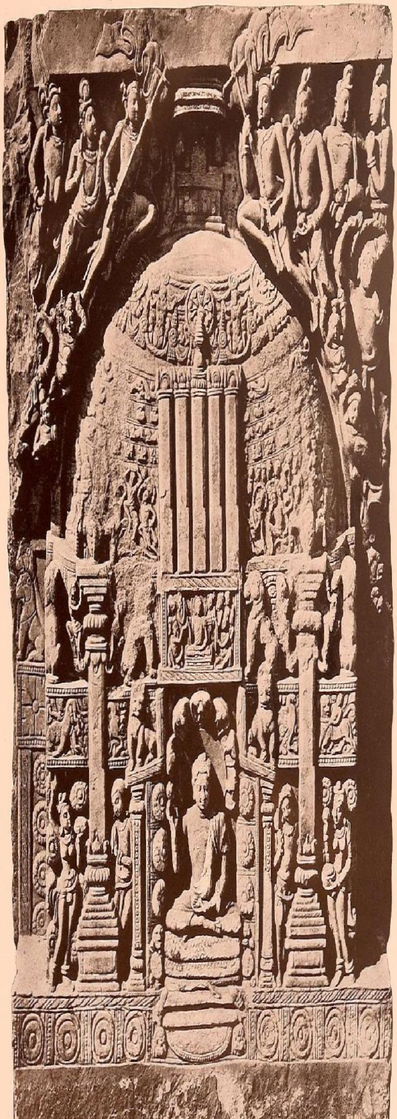
(*a*) Carved Ayaka-Pillar.



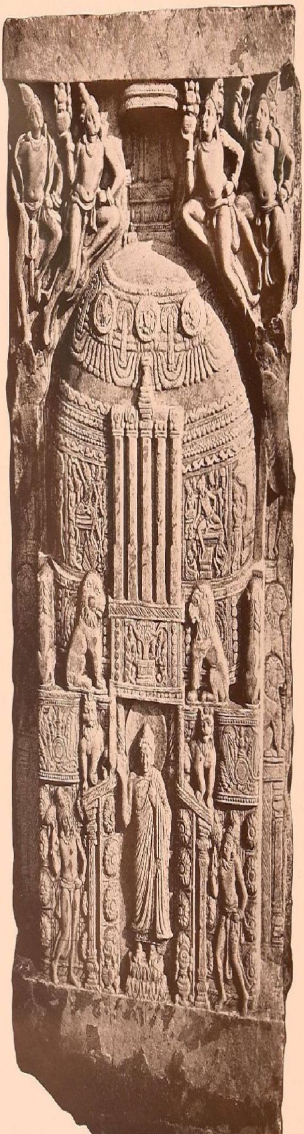
(*b*) The Buddha Relics when first discovered.

(*c*) The Buddha Relics after cleaning and showing (1) the Bone Relic and (2) the gold box.

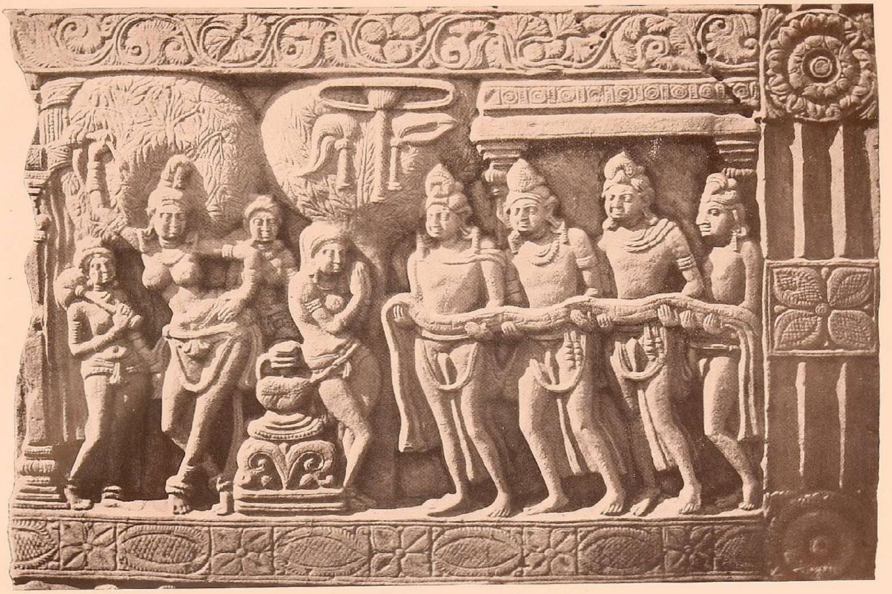
Plate XLVI.



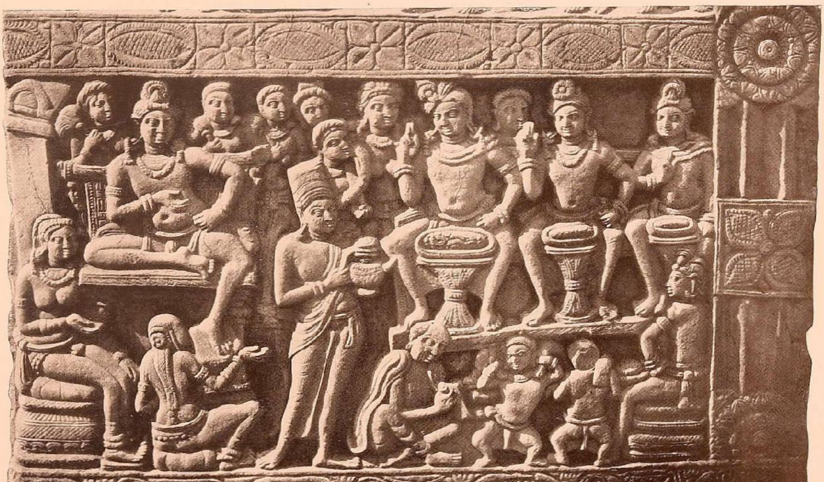
(*a*) Representation of a Stupa.



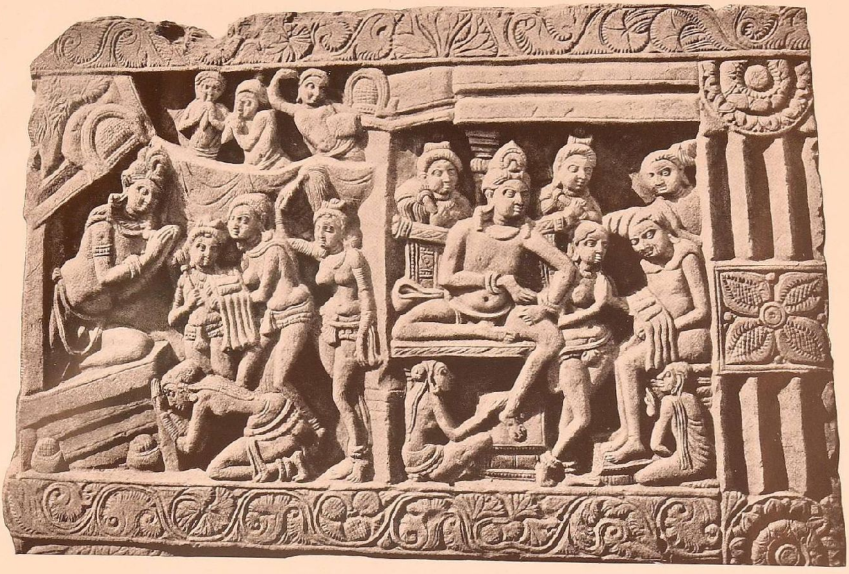
(*b*) Representation of a Stupa.



(*a*) THE NATIVITY AND THE SEVEN STEPS.

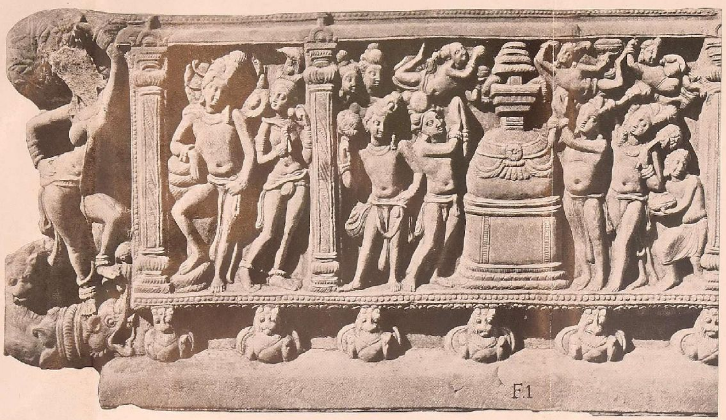


(*b*) CASTING THE HOROSCOPE.



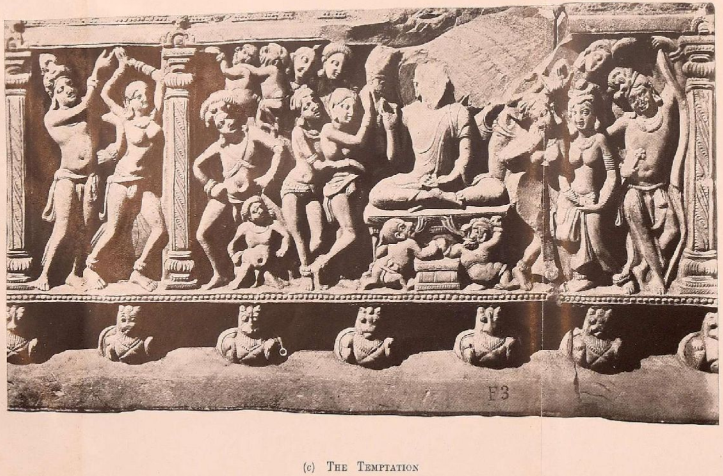
(*a*) To right: The child being presented to Asita; to left: Siddhartha's visit to the Temple.

(*b*) The Temptation.

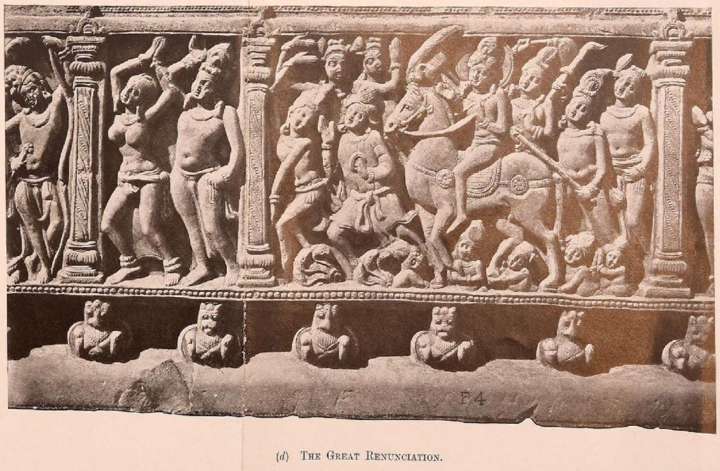


(a) MAHAPARINIRVANA.

(b) THE FIRST SERMON.

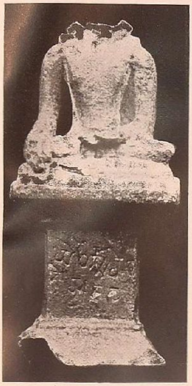


(c) THE TEMPTATION

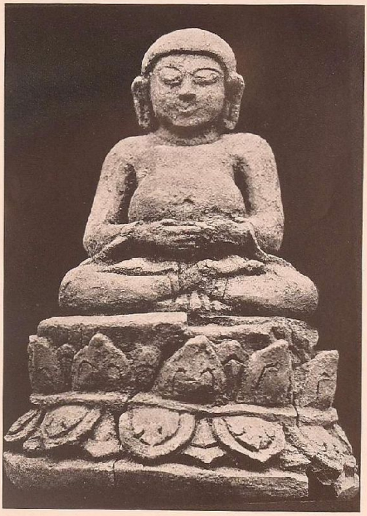


(d) THE GREAT RENUNCIATION.

(a) HMAWZA. INSCRIBED GOLD PLATE.

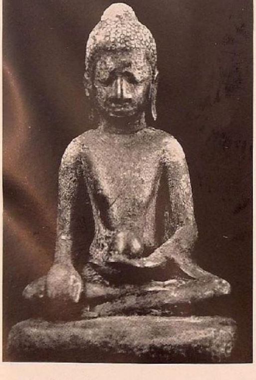


(b) HMAWZA. INSCRIBED BUDDHA.

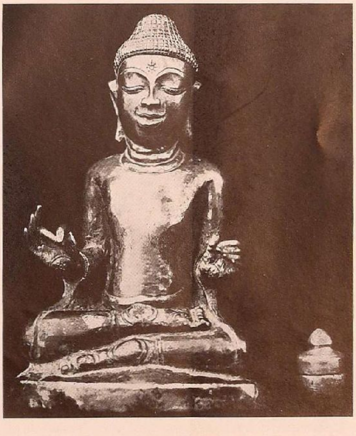


(c) PAGAN. A SEATED FIGURE WITH PROTUBERANT BELLY.

(d) PAGAN. TERRACOTTA VOTIVE TABLET.

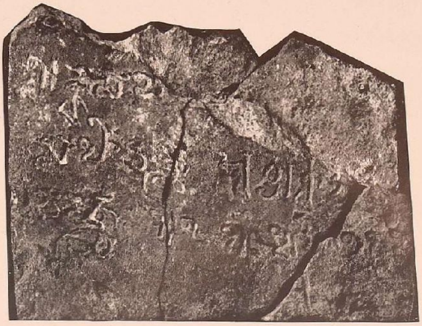


(e & f) HMAWZA. SEATED BUDDHAS.



(g) HMAWZA. BUDDHA AND A RELIC CASKET

(a) HMAWZA.
AVALOKITESVARA.



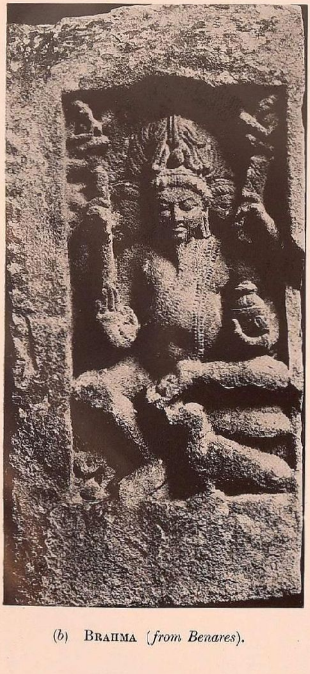
(b) HMAWZA. TERRACOTTA PLAQUE.

(c) BACK VIEW OF (a).

(d) PAGAN. BUDDHA VESSABHU.

(e) MANDALAY. RELIEF WITH SCENES FROM THE LIFE OF THE BUDDHA.

(a) GUPTA GALLERY OF THE ARCHÆOLOGICAL SECTION OF THE INDIAN MUSEUM, AFTER REARRANGEMENT.

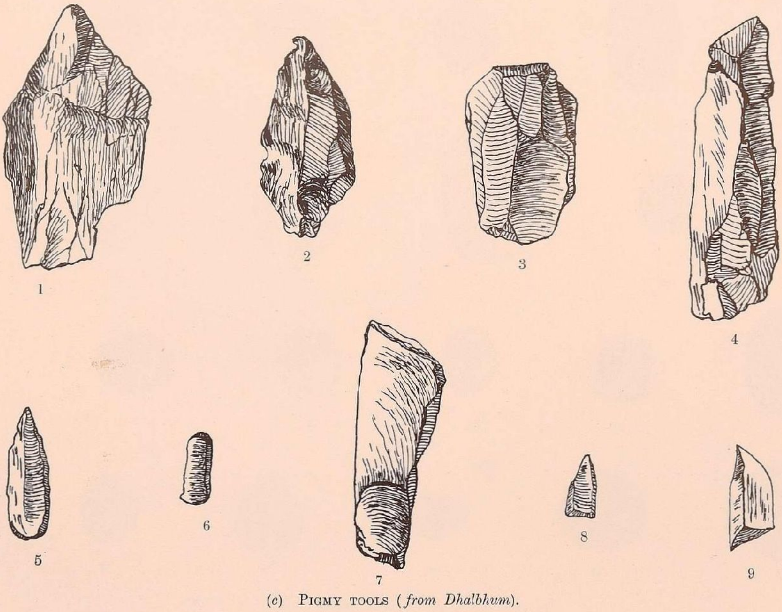


(b) BRAHMA (*from Benares*).

(c) ARATI OF BHAIRAVA (*from Benares*).

(*a*) DURGA KILLING THE ASURA MAHISHA (*from Manbhum*).

(*b*) IMAGE OF REVANTA, GOD OF HUNTING (*from Chachoripara, Bakarganj*).



(*c*) PIGMY TOOLS (*from Dhalbhum*).

SELECTED GEMS FROM THE PEARSE COLLECTION.

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

67

68

69

70

71

72

73

74

75

76

77

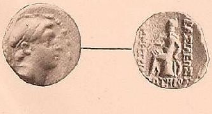
78

79

1

2

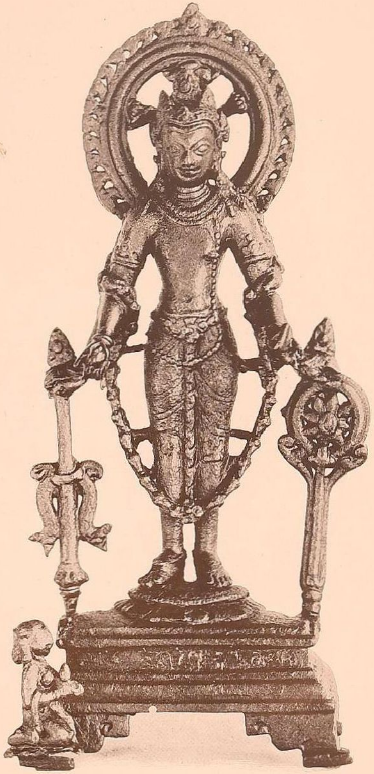
3


4

5

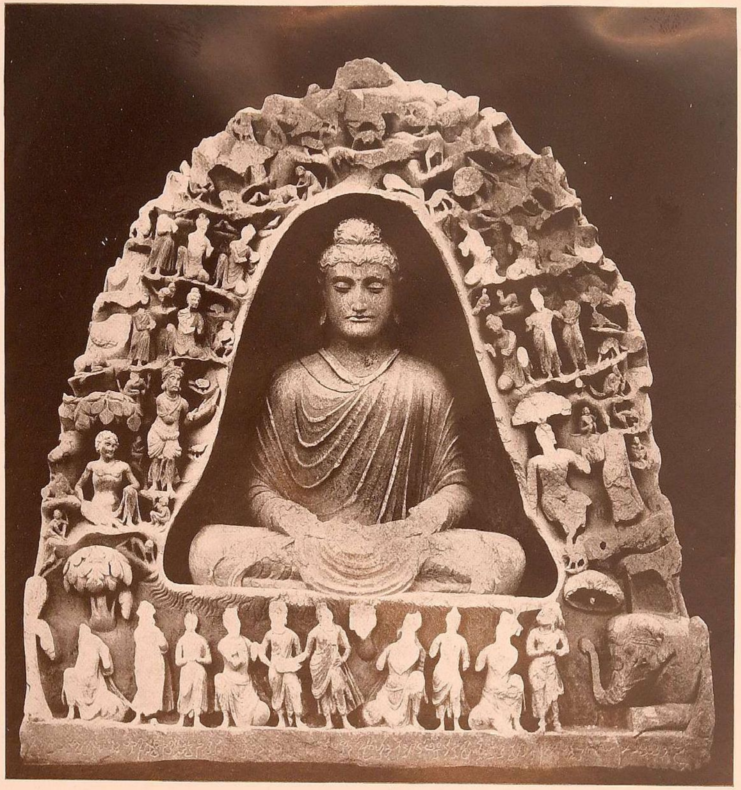
Selected gems and coins from the Pearse collection.

(*a*) Preaching Buddha.

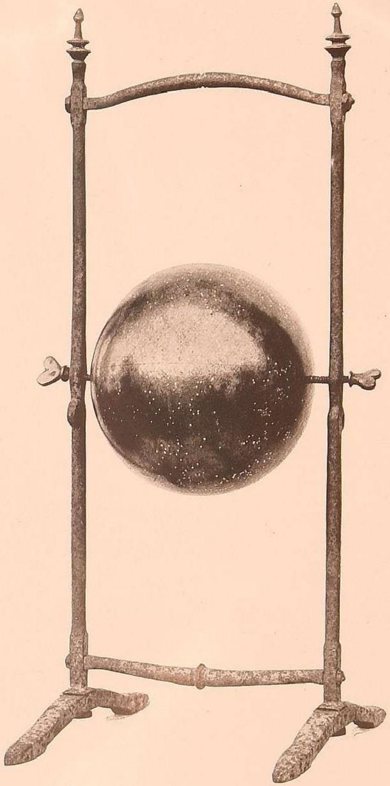


(*b*) Standing Vishnu.

(*c*) Seated Bodhisattva.



(*a*) Peshawar Museum, Inscribed relief depicting Indra's visit to the Buddha.



(*b*) Delhi Fort Museum. Bronze celestial sphere.

(*c*) Kharoshthi Inscription of the year 89 on the base of (*a*).

Plate LVIII.

(*a*) Interior view from Room III looking into Rooms II-1.

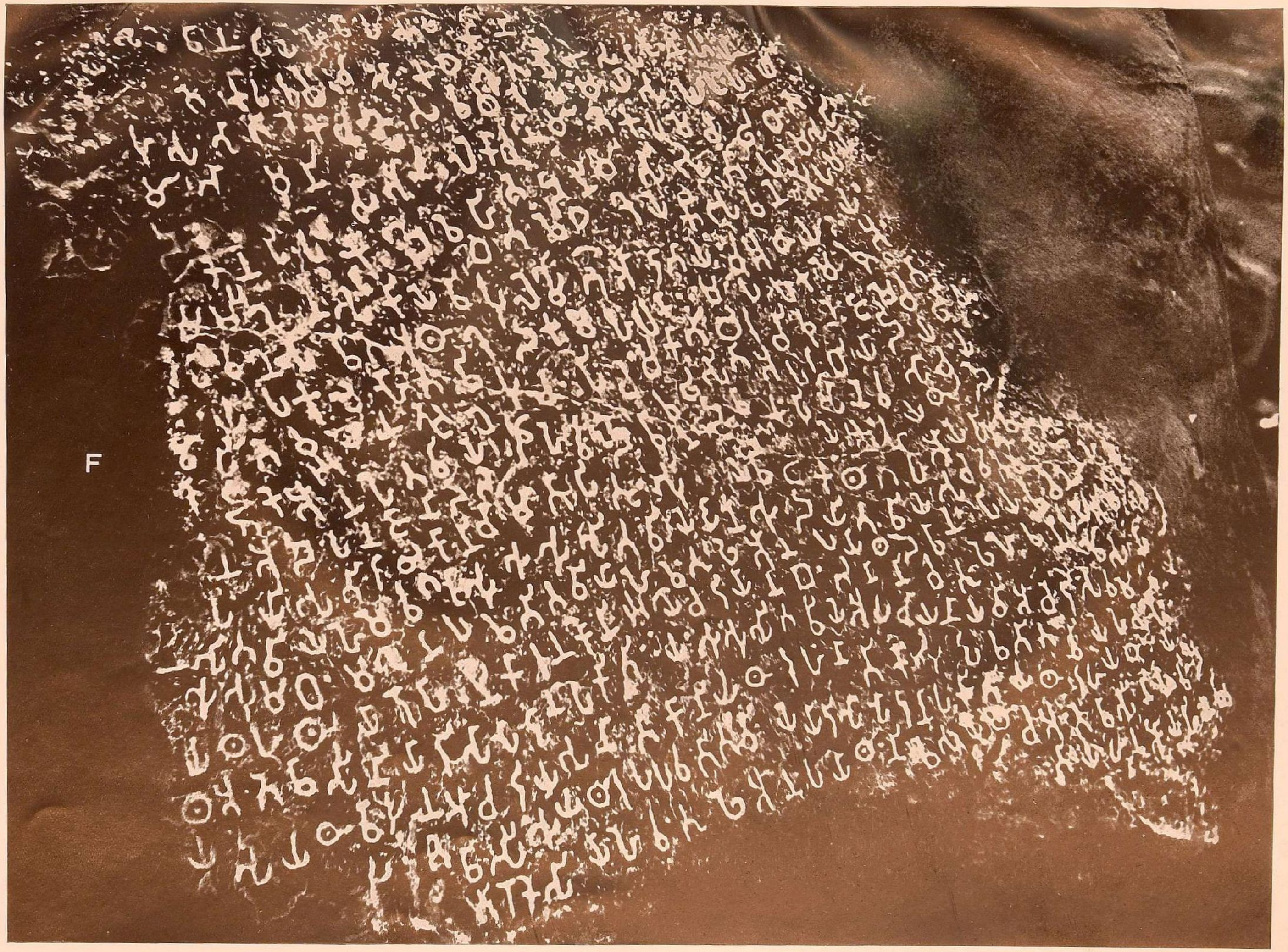
(*b*) Interior view from Room I looking into Rooms II-III.

PLATE LIX.

YERRAGUDI. GENERAL VIEW OF INSCRIBED ROCKS (A—F).

YERRAGUDI. ASOKA EDICTS IV, VIII AND X ON ROCK (B).

PLATE LXI.



YERRAGUDI. MINOR ROCK EDICT OF ASOKA ON ROCK F.

(a)

(b)

(c)

(d)

(a-b) BRONZE FIGURES OF THE BUDDHA, BEFORE CHEMICAL TREATMENT.

(c-d) THE SAME, AFTER CHEMICAL TREATMENT.

THE DEVELOPMENT OF THE KHAROSHTHI ALPHABET ON COINS. PLATE LXIV.

1 Eukratides

2 Menander

3 Menander

4 Heliokles

5 Philoxenos

6 Hermaios

7 Maues

8 Maues

9 Spalahores

10 Azes I

11 Azes I

12 Azilises

13 Azes II

14 Azes II with Aspavarman

15 Azes II with Aspavarman

16 Gondophares

17 Gondophares

18—21 Vima Kadphises